AIR TRANSPORTATION

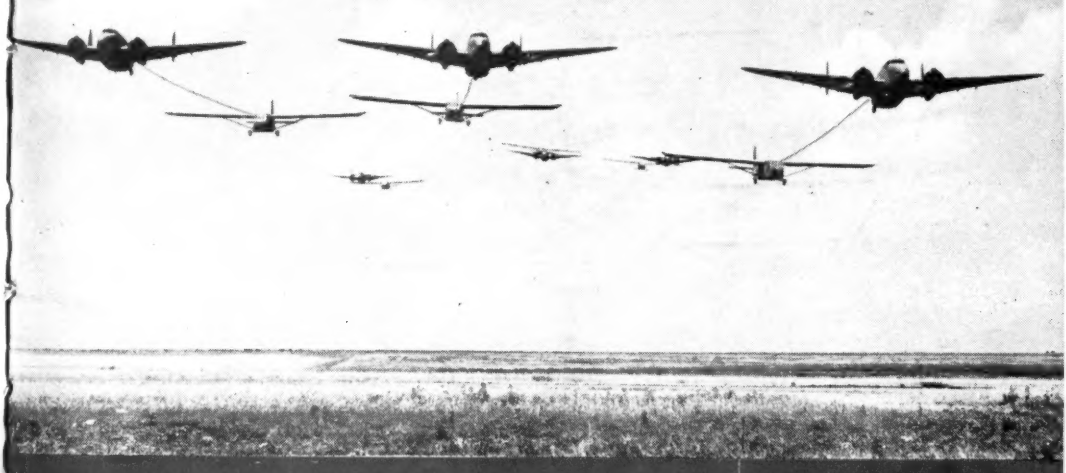
TRADE MARK

AIR CARGO
FREIGHT EXPRESS MAIL

AIR COMMERCE
FOREIGN AND DOMESTIC

VOL. 5
No. 1

JULY
1944



THE LOCKHEED LODESTAR, holder of the American transcontinental record for standard airline-equipped passenger transports, is proving useful in the Army Air Forces' glider training program. Photo shows the Loadestar, or C-60 as it is otherwise designated, being used as a glider towplane.

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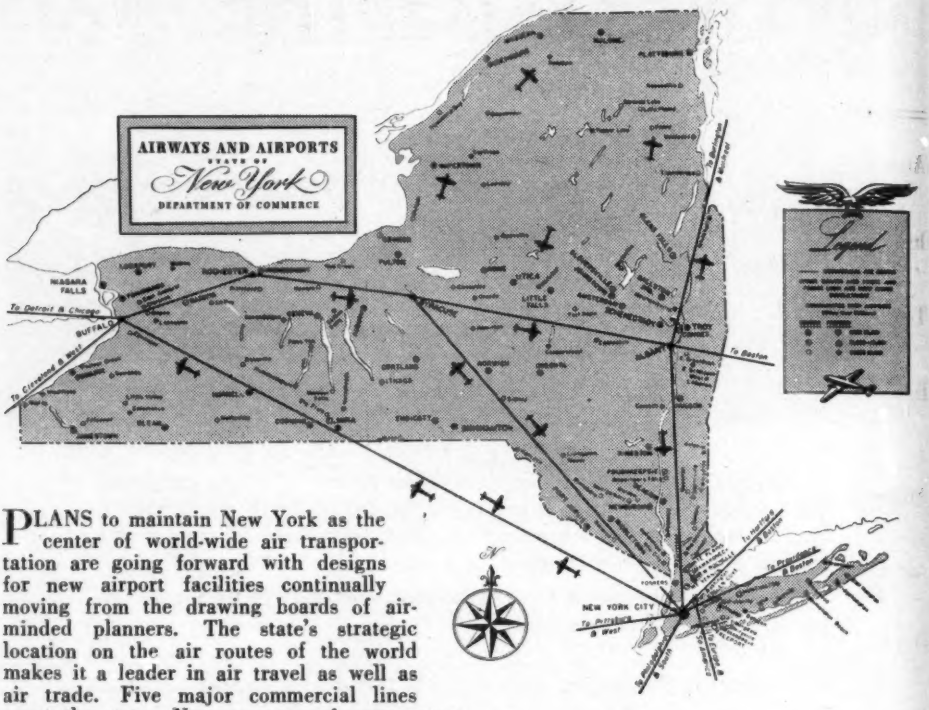
The Empire State Takes Off



PLANS to maintain New York as the center of world-wide air transportation are going forward with designs for new airport facilities continually moving from the drawing boards of air-minded planners. The state's strategic location on the air routes of the world makes it a leader in air travel as well as air trade. Five major commercial lines serve the state. New concepts of transportation for New York's businessmen are expected to develop from the pre-war growth of world-wide air transport here, aided by military aviation experience.

Idlewild to Be Biggest Airport

New York City is preparing the world's largest and most modern airport at Idlewild on Jamaica Bay in Queens. On its 13 miles of runways an estimated 900 flights a day will land and take off, carrying passengers to all parts of the globe.

Commercial transportation of cargo-by-air from New York, based on the success of military air transportation during the current world war and the pre-war gains of air cargo on the domestic airlines, appears almost certain of becoming a real factor in both domestic and foreign trade. Light industries here, with their characteristic high-value production, will be peculiarly adapted to place their goods in the markets of the world in any such post-war expansion of air-borne commerce.

The five major commercial airlines operating in the state give direct daily service to eight key cities. The airlines also connect with continental, hemisphere and trans-ocean routes at New York City's LaGuardia Field. In the post-war period, officials say, New York State will be ready for a new era of air transportation.

State to Have 147 Airports

In this state, commercial airport facilities already exist in 105 communities, and are proposed in 42 additional communities. It is also believed that many of the military airports constructed for wartime emergency will become available when the war is won. In the eyes of the state, the ultimate post-war picture is one in which feeder and pick-up lines will criss-cross the state to tie in at central points with the larger transcontinental and world-wide transport lines.

The map shows commercial air routes, other routes and local and feeder lines now under development as well as communities with airports other than military.

Vol. 5
No. 1

AIR TRANSPORTATION

50 CENTS A COPY $5.00 A YEAR

July
1944

Australia Looks Ahead, Plans Future Air Commerce 7
By F. M. BLUNK, *Australian News and Information Bureau*

Insurance and Reinsurance 12
By RAYMOND A. LAWRENCE, *United States Maritime Commission*

Tomorrow Belongs to the Sky 16
By HECTOR LAZO, *Director of Public Relations, Loose-Wiles Biscuit Co.*

British Architect Sees Air Freight Changing All Transportation 20
By J. PERCIVAL CHAPLIN,
Associate of The Royal Institute of British Architects

Airport for Tomorrow 22
A look at ATC's new international air terminal in Washington

Air Packaging Is Growing 26
First national air cargo packaging forum considers container's vital role

Hartford Means Business in Selling Air Cargo 39
By RAYMOND B. FERNHEAD, *Metropolitan Development Council, Hartford*

Sky Movement of Perishables Studied by Research Group 43

The Empire State Takes Off 4

DEPARTMENTS

Air-Portation News ***46***
Air Shipping: International Mail & Express Tables ***54***
Congratulations from A. T. ***52***
"It's An Air World," by L. A. Goldsmith ***34***

JOHN F. BUDD, *Editor and Publisher*

Copyright 1944, Import Publications, Inc.
Publishers of CUSTOM HOUSE GUIDE *and* AMERICAN IMPORT & EXPORT BULLETIN

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MOST versatile of all non-tactical aircraft in the U. S. armed services, the Model 18 Beechcraft twin-engine all-metal monoplane has been produced for the U. S. and allied governments in five distinct special-purpose types, ranging from high-altitude photographic to bombing and navigation trainers, and command personnel and utility transports. Fifteen variations of these types have been built for specialized uses.

The Army Air Forces AT-7 Beechcraft navigation trainer, for example, has been produced in large quantities as a landplane, and has also been factory-built as a seaplane or ski-plane, using streamlined Edo floats or Noorduyn skis. Quickly convertible from a landplane to a seaplane or ski-plane, this type has fulfilled exacting special duties in Alaska and the far North, and elsewhere. Precedents for these uses were established years before the war, when the commercial Model 18 Beechcraft won great favor with Canadian airlines and other users who required fast, all-season transportation above the trackless bush country to mining and fur trading outposts sometimes well north of the Arctic circle. Landings were made on tree-fringed lakes, and on the open waters of Hudson's Bay and the Arctic Ocean. Its commercial users were exacting in their requirements; its military users are even more exacting.

Beechcrafts are doing their part, in war as in peace, in all parts of the world, in every climate, and under all conceivable conditions of flight.

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BEECHCRAFTS ARE DOING THEIR PART WICHITA, KANSAS, U. S. A.

Australia Looks Ahead

The land Down Under, a focal point in the war in the Pacific, has an eye peeled for the future of its air transportation . . . Plans for its role in world air commerce

By F. M. Blunk
Australian News and Information Bureau

WHAT is Australia's future in the field of air transportation? If you should ask one of the civil aviation leaders of the land Down Under today he probably would quote a bit of Kipling: "We are at the opening verse of the opening page of the chapter of endless possibilities." And that is the way most of the leading aviation minded Australians feel.

Civil aviation and air transportation have made huge strides in Australia since Sir Rose Smith blazed the route from Britain to Darwin and Charles Kingsford-Smith flew the Pacific from America, since a group of hardy daredevil pilots carried in the machinery and the men and supplies that made New Guinea gold a fabulous tale heard round the globe.

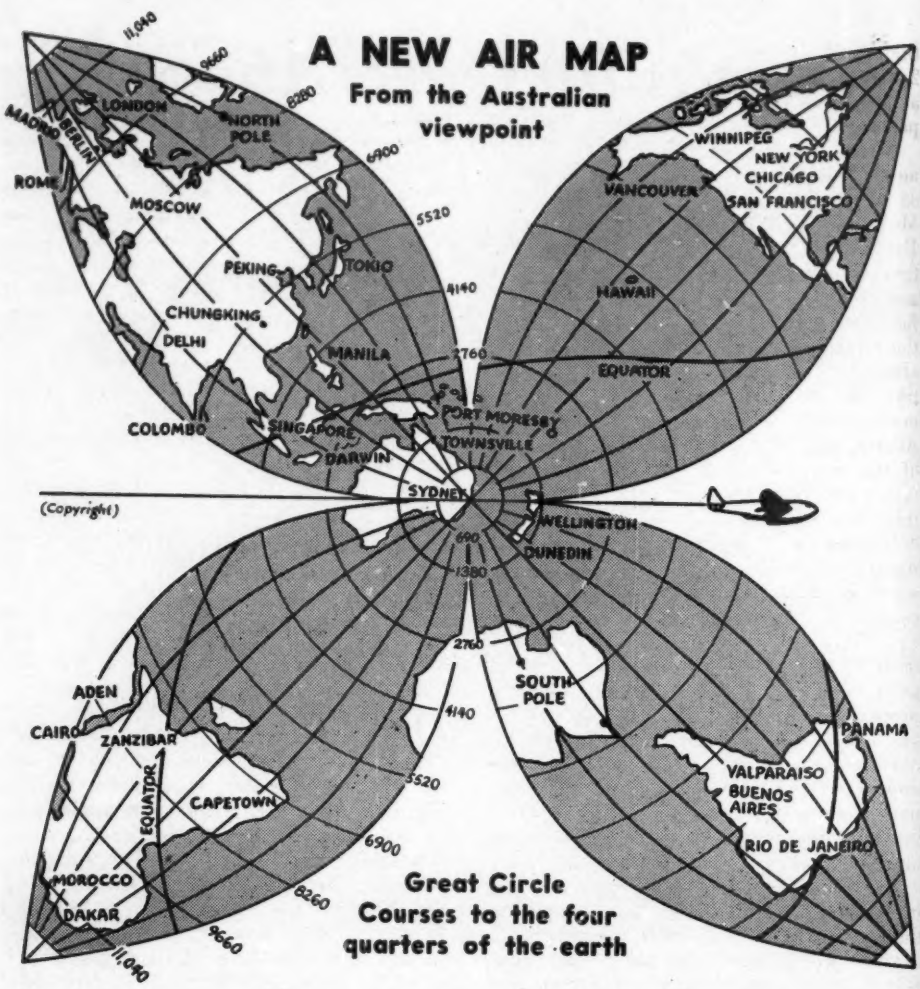
The far-flung expanse of the Australian continent, its comparatively ideal flying conditions, the great distances between centers of population and the land's industrial and agricultural centers—these were a natural set-up for prosperous air transport operation. Australian private wealth, the Government and far-seeing men of the Twenties, following close on the heels of the United States, lost little time capitalizing on the enthusiasm the great oceans flights and the jungle flying had created in the public mind.

In June of 1939 Mr. J. V. Fairbairn, then Minister for Civil Aviation, reporting on the remarkable development of air transport in Australia, revealed that the various operating companies were flying 9,000,000 miles a year over 30,000 miles of regularly established routes.

This did not take into consideration the lines to New Zealand, New Guinea and to the Dutch East Indies, which were operated exclusively by Australian concerns or in collaboration with Dutch and other companies. At that time the operating companies employed more than 370 commercial pilots. There were more than 100 airliners, freighter and charter craft and more than 200 lesser aircraft in operation (for use on short and feeder lines).

Thus in proportion to her population of slightly over 7,000,000 Australia was far ahead of any other country in the world in the length of her air routes and in many other phases of Civil Aviation. It was not to be wondered at that such rapid development of air transport had outstripped the organization of associated facilities, i.e. airports, radio, beacons, etc. The Government had just begun serious talks on new subsidies and other aids when the war came along.

To summarize, then, in 1939, Australia had an excellent system of internal airways, linking all the capital cities and serving also a large number of the more important and isolated centres. Moreover, she was linked with Europe via the East Indies by the flying boats of Quantas-Empire Airways and the airliners of KNILM; with New Zealand by the flying boats of Tasman Empire Airways, and with Papua and islands of the New Guinea mandate by airliners of the W. R. Carpenter Co., and Guinea Airways. Connections were made through the New Zealand service



***AUSTRALIA LOOKS AT THE WORLD**—The above map, which indicates correct distances and direction from a central point, shows a very different picture of the world to that shown by the usual Mercator's Projection. It was plotted by W. H. Maze, lecturer in the Department of Geography at the University of Sydney.*

with the Pan-American flying clippers from America. At that time air transportation companies with an aggregate of 26,701 route miles were subsidized, with 138,297 miles being flown each week; there were unsubscribed services operating over 3,275 route miles, with a weekly flying log of 7,581 miles. The total mileage flown by all Australian services in 1939 was 14,098,605, with 740,375 pounds of mail, 1,734,644 pounds of goods and more than 150,000 passengers.

The war years have naturally placed some curbs on civil air transportation. Equipment has been hard to get and the demand of the armed services have been great. But profits have been fair and in the last year there have been increases in all categories of transport. The regular commercial services for the year ending June 30, 1943, flew 53,656 hours over 7,035,037 miles, carried 137,254 passengers, 1,007 tons of freight and 1,267 tons of mail. In addition, charter flights for

the allied services flew 14,504 hours over 2,001,611 miles with 1,116 tons of freight and mails and an undisclosed number of passengers.

What then, of the future? The Government, believing the time ripe for planning on a big scale, recently appointed Donald McVey, Australian Postal Director, as Director General of Civil Aviation. His first job was to visit the United States and Britain to survey air transportation facilities and to advise the government on the steps it should take to keep Australia abreast of the front-runners in the industry. Mr. McVey's report has not yet been made public, but it must be assumed that Australia plans to remain among the first of the world's nations in aerial transportation and that what she must do to attain this will be done.

Insofar as facilities are concerned, Australia is in an enviable position, if one wants to thank the war. For she now has countless airdromes which must be rated equal with any in the world. These were built by the Allied Works Council, set up by Australia in the first months of feverish preparation to repel the Japanese. She has the best radio facilities and she will have thousands of finely trained pilots, engineers, radio men and maintenance mechanics. She will be able to absorb into air transport as many of these as are needed.

And planes—already we see advertised in Australian air guides and pamphlets, the air transport ships of the future. Many of them will be converted warplanes, many will be the newer creations of Australian engineers, manufactured in Australia's new aircraft factories, also born of the war. As is the case today, many will be American and British creations.

Moreover, Australia is not thinking in terms of Australia alone and her expected increases in population or of new areas to be developed. She is thinking in terms of world air transportation and wants a hand in it.

It is considered likely that the post-war air transportation plan will involve the maintenance of thirty-six major airports, located in such a way that no large town or production centre would be more than 300 miles, or two hours flying time, from a major field. With countless new feeder air lines flowing into these large centres, an air mail letter posted anywhere in Australia would reach its destination within 24 hours. This plan also takes into consideration the possibility that the air freight business will show an immense increase, especially in perishables.

Australian Air Transportation Companies and their principal officers as reported officially in the latter part of 1943 are:

AIRCRAFTS PTY., LTD., Wool Exchange Building, 63 Eagle St., Brisbane, Queensland, *Manager*, A. H. MCMANUS; AIRLINES LTD. OF WESTERN AUSTRALIA, Aerodrome, Maylands, Perth, W. A. *Managing Director*, CAPTAIN C. W. SNOOK; ANSETT AIRWAYS, LTD., Aerodrome, Essendon, Victoria, *Managing Director*, R. M. ANSETT; AUSTRALIAN NATIONAL AIRWAYS PTY., LTD., 390 Flinders St., Melbourne, *Managing Director*, I. N. HOLYMAN; BUTLER AIR TRANSPORT CO., Aerodrome, Mascot, N.S.W., *Managing Director*, C. A. BUTLER; W. R. CARPENTER AND CO., LTD., 19-21 O'Connel St., Sydney, N.S.W., *Managing Director*, SIR WALTER CARPENTER; CONNELLAN AIRWAYS, Alice Springs, Northern Territory, *Manager*, E J. CONNELLAN; GUINEA AIRWAYS, LTD., Austral Chambers, 16 Currie St., Adelaide, So. Australia, *Managing Director*, H. M. SMITH; MACROBERTSON MILLER AVIATION CO., 156 St. George's Terrace, Perth, W. Aust., *Managing Director*, H. G. MILLER; QUANTAS EMPIRE AIRWAYS LTD., Shell House, Carrington St., Sydney, N.S.W., *Managing Director*, HUDSON FYSH.

Australia's future is in the air!

Kemp of AA Sees World Open to All Airlines

A. N. Kemp, president of American Airlines, believes that the progress of military aviation during this war has been so great as to abolish barriers and open world commercial competition to domestic airlines.

In an opinion expressed this month to the Civil Aeronautics Board, Mr. Kemp declared that American Airlines could operate transatlantic service profitably against foreign flag competition without any form of subsidy.

Mr. Kemp stated to the Civil Aeronautics Board that he was opposed to permitting foreign companies to operate to interior cities in the United States unless in exchange for corresponding privileges for United States air lines.

Record Load of "Inbound" Vital Goods Carried Under U. S. Air Cargo Program

During the first quarter of 1944, a total of 10,500,000 pounds of "inbound" strategic materials and other commodities, valued at $31,000,000, was carried by air under a joint United States air cargo program in which the War Production Board, Foreign Economic Administration, the Army, Navy and private air lines participate, the Office of War Information has reported.

"Inbound" cargo includes materials imported by air all the way to the United States or materials of the United States or Allied nations given priority by the War Production Board for part-way flight along the same routes as our own imports. Most of the tonnage was flown over the "hump," on the airline across the mountains of upper Burma from China to India. The materials were then transshipped by rail and ship to the United States, United Kingdom, and the Soviet Union. The remainder of the cargo, however, was brought all the way by air into the United States.

The tonnage was carried principally by the Army's Air Transport Command and Naval Air Transport Service, both of which now operate a global network with four times the route mileage of all the commercial lines in the United States before Pearl Harbor. The principal shipper in this program is the FEA, which purchases strategic raw materials and commodities abroad under directives from WPB and makes the shipping arrangements in the field. The 10,500,000-pound air cargo program was made up as follows: FEA purchases, 5,100,000 pounds; British and Russian materials, 3,800,000 pounds; and American private imports, 1,600,000 pounds.

Here is how the program worked: For instance, American planes ship certain minerals out of China that Russia needs to make up for damage done by the Germans. Priorities for the movement of cargoes on American planes for the British and Soviet Governments were issued by WPB, which has received in return full cooperation of the British Air Ministry for priorities on British planes for materials that the United States needs from areas where United States planes do not operate. Tantalite from southern Africa for the electronics program, communications equipment from Sweden, silk-worm eggs from Turkey—all have come part-way to America on British aircraft. The total cargo carried through March, 1944, is 1,200,000 pounds larger than the similar air cargo program for the first quarter of 1943.

The cargoes given import priority by WPB for air shipment are strategic raw materials needed for American war industries.

Private shippers may obtain priorities, although most imports are handled by the FEA, which purchases raw materials abroad for government account under directives from WPB. More than 5,000,000 pounds of these FEA purchases have been flown from points scattered over the globe at which FEA Air Transport Division representatives are stationed. This division of FEA has built up a traffic organization abroad that gets materials from the interior, brings them to airports, packages and keeps track of them until they reach this country.

Exclusive of the service between China and India, air lines covering an estimated 50,000 miles and operated by the ATC and NATS carried FEA cargoes between terminals at Karachi, India; Natal, Brazil; Melbourne, Australia; Foynes, Ireland; Prestwick, Scotland; Panama and half a dozen international terminals in this country.

Linking these shipping points with other points along the route where cargoes are collected and picked up is a system of feeder air lines.

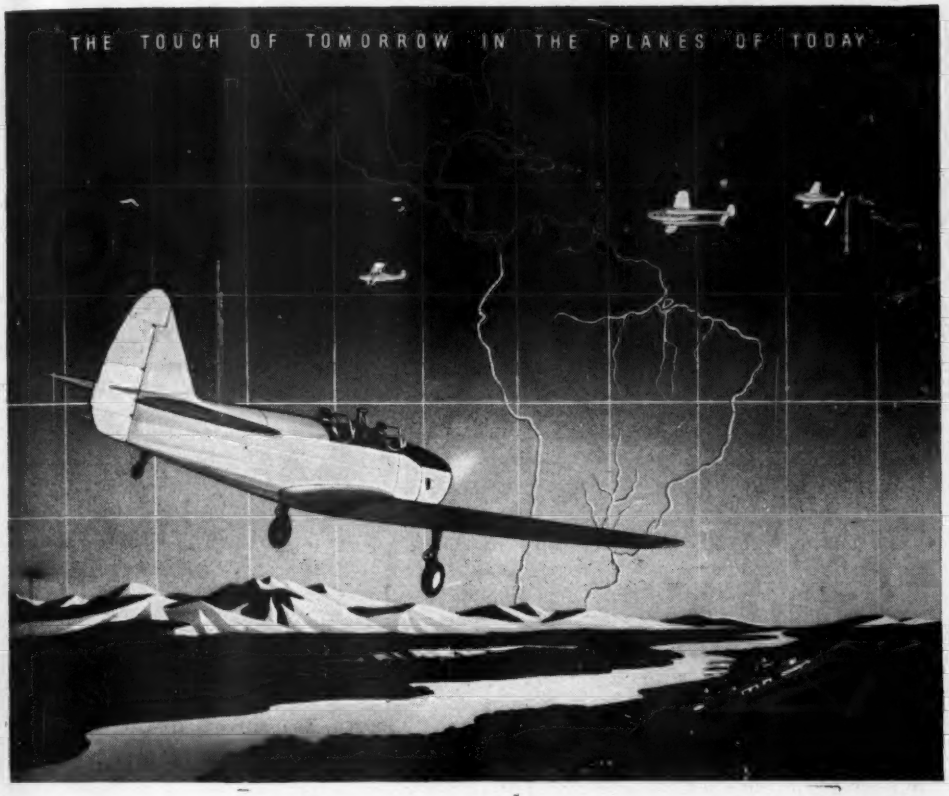
Another phase of the program almost equally significant is that in which planes help tap sources of materials that might have remained undeveloped because of their remoteness and because of difficulties of terrain that prevent efficient transportation by ground.

The OWI disclosed also that private importers, too, are buying strategic materials abroad and that many of these are given priority by WPB for air shipments. Soldiers suffering from amoebic dysentery are treated by special drugs that are flown here for processing and then re-exported to combat theatres.

On at least two occasions, it was said, imports by air prevented the enforced temporary shut-down of factories producing war materials in the United States.

South American Lines Win Awards

The International Aviation Safety Award, given annually by the Inter-American Safety Council for safety records and distinguished contributions for the progress of commercial aviation, has been awarded to five major airlines in Latin America for safety records made during 1943. They are Aerovias de Guatemala, Campania Mexicana de Aviacion, Compania Nacional Cubana de Aviacion, Avianca Aerovias Nacionales de Colombia and Panair do Brazil, all of which transported millions of passengers last year without a fatality.



Flight Plan for New Frontiers

Swift progress is in the air... both figuratively and literally . . . for our neighbors to the South.

Vast land areas—far reaches of the interior —fabulously rich—beckon our vigorously air-minded amigos. Air trails already web the maps.

Fairchild planes play a vital role in the ambitious plans of the Latin American nations. They have long been familiar sights in the skies above Brazil, Chile, Ecuador, El Salvador, Honduras, Mexico, Nicaragua, Paraguay and Uruguay. Colombia and Peru will see them soon. Fairchilds ply the Amazon trade routes for *Panair do Brasil.* Many are used in private flying.

Hundreds of Fairchild PT-19's train military pilots of these nations. Still others serve as military taxicabs for air force liaison. Keen interest is being shown in the multi-purpose Fairchild AT-21. And still greater attention follows the development of the revolutionary new Fairchild all-metal Cargo plane.

Today, in her own factories, Brazil is turning out Fairchild planes and soon will be building Ranger engines. From Fairchild and Ranger engineers she is acquiring the knowledge and engineering data necessary to produce them in quantity.

Whatever the direction of their aviation activities, these nations have had the friendly, interested cooperation of Fairchild's experts, backed by the full resources of an organization whose credo it has always been to build "the touch of tomorrow in the planes of today."

BUY U. S. WAR BONDS AND STAMPS

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Fairchild Aircraft Division
Hagerstown, Md., Burlington, N. C.

Duramold Division, New York, N.Y.
Affiliated: Stratos Corp., New York, N. Y.

Insurance and Reinsurance

New proposals on aviation insurance, a subject heretofore conspicuous only by a dearth of publicity, are laid bare for the shipper and air-line executive

By Raymond A. Lawrence

Division of Economics and Statistics, United States Maritime Commission

THE importance of insurance and reinsurance to both domestic and international aviation and air transportation cannot be overlooked nor overemphasized. Insurance is a component part of aviation and air transport as it is of all commercial enterprises. Air line companies and members of the aviation industry purchase insurance to protect their investments in aircraft and equipment and to provide indemnity for injuries and deaths for which they may be legally liable. Bankers financing various aviation enterprises require insurance; shippers demand it for the protection of their goods in transit and, when used as cargo insurance, it serves as a basis for credit. The necessity for adequate insurance and reinsurance is not only recognized by the aviation industry, the air line companies, and the various Federal agencies concerned with aviation, but, in no instance, has its need ever become controversial.

Since 1938, the Civil Aeronautics Board has been interested in aviation insurance and has, for approximately six years, conducted studies and surveys of the present American aviation insurance market in order to determine whether the present aviation market premium charges were fair and reasonable and whether the market was "accommodating" itself to the present needs and for the fullest development of air transportation. The Board prepared and issued (April, 1944) a study of aviation insurance covering 39 printed pages in addition to 20 pages of appendices containing statements to the effect that the American aviation insurance market was dominated by three groups of insurance companies, that reliable information as to their operations and earnings, on a national basis, was incomplete and inadequate. It was further stated that the studies undertaken by the Board had been subjected to a number of limitations, that the national aviation insurance market had not been the subject of previous studies and, that adequate data concerning the functioning of this market was not available. As a result—"The Board has concluded that the information available to it as a result of such investigation does not permit of any final conclusions as to whether there are any respects in which the functioning of the aviation insurance market has not been consistent with the public interest in the development of aviation. In particular, the Board has decided that it cannot at this time determine whether the premium rates which have existed or now exist in aviation insurance are fair and reasonable." The report recommends that these studies by the Board be continued. This study, as well as the others which preceded it, hae not produced any constructive aviation insurance plan or program.

In March, 1943, the Insurance Committee of the Air Transport Association of America released its "Report on Air Transport Insurance," which was conducted "in order to make certain that

there were available to American flag airlines, individually and as a group, the most economic, safe and efficient forms of insurance possible." This investigation was admittedly incomplete. "The Association's study did not include a complete analysis of the operations of these principal air transport insurance markets. Even assuming necessary permission to make such a study could have been obtained from the insurers concerned, the undertaking would have required time and funds not available." Regardless of this sketchy and incomplete survey, the Association approved and recommended that a plan of insurance known as The Airline Company Plan be adopted by the air transport companies. This scheme of insurance introduced many changes in established company policy and procedure—too many to discuss here. It is, however, of considerable interest to note, in passing, that this plan of insurance, if adopted by the air line companies, would encourage and foster a monopoly of air line company insurance for a period of 15 years, and possibly more. Monopolistic control of any form of aviation insurance certainly would not contribute to the fullest development of aviation and definitely would not be in the best interests of the public. Another survey and investigation which has not produced a constructive plan or program for the aviation industry.

Foreign Participation Limited

Throughout all of these surveys of the American aviation insurance market undue and unnecessary emphasis has been placed upon foreign insurance participation in the American market, particularly with reference to reinsurance. Considerable alarm has been expressed over the possibility that reinsurance placed abroad might be the means of placing in the hands of the enemy vital information which might not only be a handicap to our position in international commerce, but, even be inimical to our national security. With the beginning of the present war, censorship was established over the entire field of insurance to prevent any dangerous information going abroad and a further step was the establishment, in this country, of the British Insurance Communications Office to permit the British underwriters to analyze insurance risks here, thus eliminating the necessity for transmitting abroad much of the information previously sent.

Foreign participation in the American insurance market is practically confined to British companies, licensed and operating under our various State insurance codes, or through Lloyd's of London. British companies operating under the several State insurance departments are regulated and supervised in the same manner and to the same degree as any American company. The suggestion has been made that the establishment of the British Insurance Communications Office was but a duplication of the functions previously in operation in the British companies licensed here and through Lloyd's American representatives. Lloyd's, or any reinsurance group, is interested only in the probable profits to be secured from the reinsuring company. Reinsurance treaties and contracts are completed only when the reinsurance company, or group, are convinced that the underwriting ability and experience of the primary carrier is such that, under normal conditions, it will be reasonable to anticipate profitable returns.

Full Confidence Essential

Once such confidence is established, the selection of the risks, the premium rates, loss adjustments and settlements remain in control of the original insuring company. The reinsurers are not interested in the detailed information of the risks involved. As a matter of fact, American insurance companies have for many years used a standard reinsurance reporting form known as the Summary Account. This form, as indicated by the name, is merely a summary of the volume of liability assumed, the premiums charged and earned, the losses paid, the expenses incurred, the proportion of expenses and losses charged to the reinsurers, and the profits accredited to them. No other information is given, or expected. It is extremely difficult to picture a situation wherein the reinsurers would jeopardize their profitable reinsurance contracts in the American insurance market through the transmission of confidential and vital information to interests unfriendly to the United States. Furthermore, the offering and acceptance of high limits of reinsurance, as is the case in aviation insurance,

usually is transacted in person rather than by correspondence which, in itself, would tend to eliminate the danger of disclosure, or interception, of any such confidential information.

Legislation Outlook Confused

Confusion in purpose and direction, failure or inability to recognize the problems involved and the obvious necessity for experienced and reliable insurance counsel has further complicated a situation previously described as "chaotic." The Civil Aeronautics Board, a quasi-Judicial Federal agency, has for several years studied the question of aviation liability legislation and liability insurance. Whether this proposed legislation should be enacted by the various State legislatures or through Federal processes has not as yet been determined. Due to this uncertainty the aviation insurance underwriters have been unable to formulate industry-wide policies and standard forms which the Board has requested. The Air Transport Association, on the other hand, is interested only in the possibility of securing the most favorable market for its membership—the air line companies. The Association is not interested, nor concerned, with the insurance problems of the non-air line operators, the individual operator or owner, the manufacturer of aircraft and his "industrial flights" or experimental flying. The present underwriting groups, however, are not interested in the writing of aviation insurance solely for the air line companies. Many insurance companies, and insurance groups, in the past have attempted to do so only to discover that the venture was not a financial success and that it was necessary to withdraw from this field of insurance as a result of the excessive losses sustained. Insurance companies underwriting aviation insurance have demonstrated through many years of experience that successful aviation underwriting requires financially sound companies entered and licensed in all States; companies with a nation-wide field organization and large premium income developed from a general non-aviation business. This, experience has proved, is necessary so that the wide fluctuations in aviation premiums and losses will be relatively small to the participating companies. The aviation industry, one of the very few inherent catastrophe hazard classes of insurance written by these underwriting groups, contributes only a small portion of the total premium incomes obtained and the threat of losing such insurance business probably does not encourage them to make further commitments under present war-time conditions.

Need Trained Personnel

The Civil Aeronautics Board, in order to determine an intelligent appraisal of the availability and reasonableness of the American aviation insurance market, not only for the air line companies, but for the industry as a whole, and to adequately and accurately inform those interested in any national and international aviation plans, should secure the permanent services of experienced and trained insurance personnel in order that a definite and workable plan of aviation insurance policy and procedure could be established. The present diversity of interests, the pending and proposed legislation which may seriously effect all phases of aviation and aviation insurance more than justifies such a course of action. If the American aviation insurance market cannot provide adequate and sufficient coverages for the risks encountered; if the American insurance market is financially unsound; if the insurance services offered are inadequate and inefficient, to that extent will the growth and development of aviation and aviation insurance be retarded.

Insurance will have an important influence upon the development and expansion of aviation and it is essential to the Civil Aeronautics Board and to the aviation industry as a whole, that the American aviation insurance market so functions that it may make its maximum contribution to that end. This market, in general, recognises that their responsibility to their stock-holders has been definitely integrated with the sound development of aviation and to further that association, have earnestly attempted to provide an insurance market which will be mutually profitable to their groups and to the aviation industry. It is acknowledged that aviation insurance can grow and develop only as the aviation industry develops and expands.

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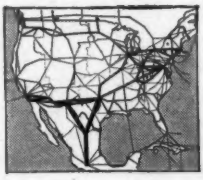

To complete the swift service in Monterrey and Mexico City, American has its own fast trucks waiting at the airports. After easy customs clearance, your shipment is transferred from American's Flagship to American's truck and whisked to the consignee in double-quick time. This air way is simple and fast. It saves time and trouble, and it's economical, too. You'll find it pays to mark your shipments: "Via American Airlines International Air Express."

THE NATIONAL AND INTERNATIONAL **AMERICAN AIRLINES** *Inc.* ROUTE OF THE FLAGSHIPS

Tomorrow Belongs to the Sky

An enthusiast for air-borne commerce indulges in a little arithmetic and finds that tomorrow's commerce will have wings

By Hector Lazo
Director of Public Relations, Loose-Wiles Biscuit Co., New York City

THOSE "doubting Thomases" whose minds are still bound by the sails of clipper ships and the hold of the cargo tramp should be taken aboard a B-29 and made to actually measure the potential cargo space in one of these Super Fortresses. But since that probably would be impossible for the duration, since these supergiants are still more or less "military secrets," perhaps a little lesson in more simple arithmetic might help.

Because there are still many people who will tell you that the future of world trade depends entirely upon water-borne ships. To talk about a cargo train flying through the air is, they say, "sheer nonsense."

—That's what they said to Galileo when he spoke of sailing *around* the world.
—That's what they said to Columbus when he spoke of sailing *west* to India.
—That's what they said to Fulton when he spoke of a *steamboat* to supplant the slower sail.
—That's what they said to R. E. Olds and to Louis Chevrolet when they spoke of horseless carriages.
—That's what they said when the Wright brothers spoke of *flying.*
—That's what they said when Col. Billy Mitchell pleaded for an *air force* to fight the next war.
—That's what they said—they said—they said—when Germany blitzed London and Japan bombed Pearl Harbor.

That's what "they" have always said since the second man argued with Adam that there must be a better way of getting the apples off the tree than by man shaking the tree on the ground.

But "they" die hard and are not easily convinced—even when given simple arithmetic proof.

But if you want such simple proof, look at this:

Pan American Airways did a total gross business in 1943 of $126,000,000; and Pan American is planning on *an addition* of 100 modern, four-engine planes, twice as big as the 42-ton flying boats now in use; they will carry 100 passengers each and cruise at 300 miles an hour. Before Pearl Harbor, Pan American operated 92,582 route miles commercially; last year they operated literally around the world, carried 643,936 passengers and 84,545,010 pounds of freight, flying 66,295,716 plane miles and 626,462,057 *passenger miles.*

And that is only *one* company—the largest American international air transport company, to be sure, but there are 17 additional companies awaiting the return of peace—and a free competitive whack at the new traffic of tomorrow in the skies.

The 18th and 19th Centuries were the era of the seven seas.

The 20th and 21st Centuries belong to the limitless skies.

In one short year of development, *prior to midsummer 1943,* American industry and business received *by air* 4,597,480 pounds of the *most strategic* war necessities, such as tantalite, mica, quartz, tungsten, rubber; plus more than 5,400,000 carats of industrial diamonds and almost 82,000 ounces of platinum. They were flown, literally, around the world, from

The Writer

Hector Lazo has made marketing and merchandising his life's work. Nine of his twenty-three years since graduation from Harvard have been spent in foreign trade and travel, in virtually all Latin American countries, Europe and the Far East. In 1942-43 he was Assistant Director of the Board of Economic Warfare, in charge of the Office of Exports, and was one of two United States government officials accompanying Vice President Henry A. Wallace to South America last year. Mr. Lazo is the author of several books and numerous pamphlets and articles. He is now Director of Public Relations of the Loose-Wiles Biscuit Company in New York.

field stations that make a dotted belt around the earth's middle—Natal, Accra and Dakar, Khartoum, Karachi, Assam, Chungking, Honolulu, San Francisco, San Antonio, Miami, Panama and Trinidad. The buckle of the belt would be Panama —Miami—Trinidad; the sash across the world reads like a tale by Kipling. From China to India alone, 25,000,000 pounds of tungsten, tin, tung oil, tea, hog bristles, mercury and silk flew over the fabulous Himalayas, and on their westward route passed over the highest known peaks and very close to the lowest known point on this old earth near the Dead Sea in Palestine.

And they passed over both places in a matter of hours!

Of course, that's war. But the dawn of peace is already visible on the tired horizon. Peace must come—and with it new hope, new trade, new activity. Shall we be ready for it?

The problems are tremendous but not insurmountable. The United States has built, with the eager cooperation of the nations involved, between 25 and 50 first-class airports on the Western Hemisphere alone— anchors of air trade for tomorrow. There will be delicate questions of sovereignty and international protocol; there will be less delicate but perhaps even more troublesome questions of costs and management; there will be questions of ownership and lack of international air law to parallel the ancient maritime law of nations. But trade will find a way and, if necessary, make or force the making of new international law that will make it possible to use 50 first-class all-American airports and several thousand first-class all-American air cargo vessels.

The sail-bound mind of the tramp steamer captain may not like to fly, but the airplane will continue to fly without him, and the world will continue to shrink year by year—yes, almost month by month!

An explosion in a vital oil refinery "somewhere in the Caribbean"? In *10 hours* life restoring drugs and plasma from the Chicago airbank are delivered at the local hospital.

A vital plant in a secret location must shut down because of sudden breakdown of a motor. In 3 hours, a plane 2,000 miles away has a duplicate motor and in less than 24 hours it is installed and working. The wife of the President of a neighboring South American country is stricken at dawn with what may be fatal disease, unless—unless what? You've guessed it. Unless we can get 3 pounds of X-drug. Before the sun has set that same day, the drug is delivered and the life is saved.

On and on and on—but those three incidents were a few of the *actual happenings* in a period of less than 3 months in 1943

—"military secrets"—that only the airplane could keep from becoming international catastrophes.

That and thousands of tons of cargo, perishables that are now "seasonal" but will tomorrow be "every day items" the world over. Food, medicine, industrial raw materials, machinery and parts—glider trains filled with air cargo of all descriptions for all destinations—dinner in Rio and breakfast in B. A.—and dinner again in bustling, modern Santiago or in charming old Lima—the vast resources of the Amazon Valley that staggered the imagination of even modern youth—commerce, trade and traffic undaunted by weather and unafraid of time.

From the time Christopher Columbus sailed for the Indies in 1492 to the time the "mad paperhanger" sent his flaming sword over Poland, the world had shrunken 250 times, transportation-wise. From Warsaw to Cherbourg, the world shrank another 250 times, transportation-wise.

The hanging of Hitler and the sunset of the Sukiyakis will clear the skies for fleets of air cargo trains that not even Buck Rogers could envision. The decade of peace to follow the downfall of the self-confessed master race will shrink the commercial world by at least as much again as the progress to date since the Niña, the Pinta and the Santa María—and the *air* will carry in one train of glider cargo ships more than Columbus' entire fleet carried across the ocean blue on his history making trip 450 years ago. And it will go from anywhere to anywhere—in a matter of hours!

41 New Airports Approved

President Roosevelt has approved completion of forty-one airports in the National Defense Landing Area Program, thus protecting community investments in airport projects. Fourteen of the projects were designated as required for specific military purposes, while 27 were labeled for emergency use.

Those recertified for military use include Evergreen, Alabama; Winslow, Arizona; Oakland, California; Pensacola, Florida; Gainesville, Georgia; Trenton, New Jersey; Pauls Valley, Oklahoma; Port Orford, Oregon; Kingstree, South Carolina; Knoxville, Tennessee; Buffalo, New York; Champaign, Illinois; Niagara Falls, New York; and Sheridan, Wyoming.

The twenty-seven communities that will get airports for emergency use include:

Alturas, California; Winter Haven, Florida; Decatur, Illinois; Quincy, Illinois; Springfield, Illinois; Dubuque, Iowa; Waterloo, Iowa; Lawrence, Massachusetts; Pellston, Michigan; Bemidji, Minnesota; Duluth, Minnesota; Springfield, Missouri; Dansville, New York; Greensboro, North Carolina; Jamestown, North Dakota; Canton, Ohio; Mansfield, Ohio; Springfield, Ohio; Wilkes-Barre, Pennsylvania; Denton, Texas; Georgetown, Texas; Danville, Virginia; Martinsburg, West Virginia; Parkersburg, West Virginia; Wheeling, West Virginia; Wiley Ford, West Virginia; (Cumberland, Maryland, Municipal Airport); and LaCrosse, Wisconsin.

Airports for India

The Department of Commerce has reported that a comprehensive network of 111 airports with new construction and improvement of existing sites costing $46,500,000 has been proposed as a post-war project by the Posts and Air Development of India. The project would require construction of only twenty new airports. Plans are also being made to erect hotels for air travelers in conjunction with the airport program.

★ WHERE THE AIRLINE PILOTS MEET...

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***CARGO PLANES** — This assembly line where the wings are attached to the fuselage shows graphically the extent to which the C-54's, world's largest cargo plane now in production, are being turned out at the Douglas Chicago plant in Park Ridge, Ill. As announced in Washington by Charles E. Wilson, executive vice chairman of the WPB, June production at the Douglas Chicago plant was 15 per cent above schedule.*

Production Schedule Must Be Maintained Col. Boots Declares

The United States must maintain a post-war production schedule of not less than 20 per cent of current airplane production, in the opinion of Colonel N. Jay Boots, pioneer flier and aviation authority.

Asserting that such a schedule is essential both economically and militarily, Col. Boots said, "We must win the peace by assuring the continuation of America's supremacy in the air. Our two major parties must determine now upon a ten-year program, maintaining at least 20 per cent of the number of aircraft we are now turning out and that program must go into all our national plans for post-war employment, transportation and hemispheric planning."

The United States, Col. Boots contends, can be entrusted with an air force of this size since we have always proven that we are neither aggressive nor covetous. American public opinion, he added, will and should demand that the United States continue dominant in its production and maintenance of a commercial and military air force.

"For both export and import transportation," Col. Boots declared, "to develop the increasing passenger demand, to develop an interlocking system of air lines from the smaller cities to the present metropolitan air fields so that passengers and air mail will be more efficiently expedited, to develop potential man power and to keep it employed, and to assure peace for the future, it is essential that a production plan for the future be set now."

Hawaiian Airlines Seeks Central Pacific Routes

Hawaiian Airlines has filed with the Civil Aeronautics Board in Washington an application for two regular passenger, freight and mail routes between (1) Honolulu and Shanghai via Midway and Tokyo, and between (2) Honolulu and Manila, Philippine Islands, via (a) Wake and Saipan in the Marianas and (b) Johnston, the Marshall Islands, Ponape, Truk and Palau, all of the foregoing intermediate points being islands in the central and western Pacific.

Stanley C. Kennedy, president, stated that it is generally believed that there will be a great development in the Pacific immediately following the war and that certain services should be inaugurated by American flag lines, not only because of the commercial value of such routes and services but because of their military value.

Mr. Kennedy declared that Hawaiian Airlines is very much interested in this development and believes that the line with its operating and maintenance bases located in Honolulu, is in a most advantageous position to expand in all directions. "We have been operating passenger and freight services between the various islands in the Hawaiian group since 1929 and have been the pioneers of air service in Hawaii. The Hawaiian Islands are going to be the cross roads of air transportation on the Pacific and Hawaiian Airlines is now preparing for that future," said Mr. Kennedy.

Hawaiian Airlines now has an application pending before CAB for a route between Honolulu and San Francisco and Los Angeles.

British Architect Sees Air Freight Changing All Transportation

By J. Percival Chaplin
Associate of The Royal Institute of British Architects

AIR freight will undoubtedly expand, and in so doing revolutionize transport of all kinds. This revolution will probably materialize, like all revolutions, through the culminating effect of detail. Much theory has been advanced, but the translation of these theories to practice lies in the future.

A balance must be preserved between production time-cost and running cost, useful load and handling efficiency. This balance should be kept on a level to justify scrapping at frequent intervals, thus insuring activity on the production side which will produce a constant flow of new ideas.

At the present stage of development, aircraft ranging from 60 to 120 ft. span offer the most useful field for design. Aircraft within this range can be easily handled, are reasonably cheap to run and produce, and can be scrapped after a fairly short life. Pay-loads are rapidly increasing in comparison with the size of the airplane, and a giant is not always the best, although perhaps the obvious solution to the problem of carrying loads commercially practical.

The basic points of cargo transport are: speed, size of unit, handling efficiency, form and shape of unit and balance. Applying these to airplanes brings out the following points:

Speed—Governed by drag and power. The former is a question of design and must balance with the most efficient shape. The latter is governed by running economy balanced with operational requirements.

Size of Unit—Governed by type and weight of cargo. Our railways have been built up on small units, but the tendency is towards larger units. American freight cars about 40 ft. long are generally considered a good type.

Larger units bring difficulties of handling and lack of balance when partly loaded. Allowing for the bulkiest type of cargo, a compartment 40 ft. by 8 ft. by 9 ft. high would contain sufficient weight to load the types of airplanes at a practical stage of design today. With higher wing loadings the size of compartment may be increased, but it may be better to use this characteristic to improve the efficiency of the airplane rather than its size.

Handling Efficiency — This falls into two parts, the handling of the airplane on the ground and the handling of the cargo.

The larger the airplane the more complicated it is to handle, service and run. For cargo handling the key points are accessibility and suitability. Proper-sized doors and hatches placed so as to avoid obstruction from wings, airscrews and under-carriage are needed, as are level strong floors at a standard height from the ground if possible.

Provided the floor is level it is possible to overcome the variation of the height above ground by making adjustable floors in the loading dock or vehicle serving the airplane. Suitable shape and form of compartment for the various types of cargo is essential, and here a general-purpose type would appear to be the best proposition. Cooling, ventilation, fire protection and storage facilities all need consideration.

Form and Shape — The general form of the airplane is governed by the foregoing requirements, and a number of design problems are apparent in complying with them and at the same time producing an aerodynamically efficient design.

The form of the cargo space should be as near as possible to the ideal of a rectangular compartment with square walls and level floor and ceiling.

Balance—Balanced general design is essential for efficient running, and experience only can show the best type. The medium-sized, high-wing airplane with tricycle under-carriage and oval section fuselage appears to be a basis.

Design should take into account the best position and internal disposal of cargo in the compartment to maintain maximum efficiency with "part" loads.

To maintain the best possible speed from point to point in the air, balanced ground organization is essential. The keynote is quick turnover, and to achieve this all adjuncts must be designed for the job. If permanent buildings are provided they should be as simple as possible, with mechanized gear and planned organization for the speediest indenture and dispersal of loads.

The great disadvantage of buildings is that once built they are difficult to alter and too expensive to pull down and rebuild at frequent intervals. To keep abreast of aircraft development something less static is necessary.

Light metal units with a large use of plastics can provide buildings more easily altered. Hangars kept as wide open spaces present no problems. Station buildings could be either a permanent "shell" with subdivisions of a temporary nature or small temporary units. Much can be learnt from the exhibition type of building in this connection.

From some aspects it would seem more logical to eliminate buildings altogether and to handle passengers and freight by mobile units designed for short life.

Administration would require permanent quarters, but its needs are fairly static and not likely to alter much. The unit idea has many attractive qualities, and proper design can in some aspects provide more efficient handling.

Great speed could be achieved as there would be no limit, other than the size of the ground, to the number of aircraft which could be handled at one time. The form of the units would require careful consideration.

If this year's designs are viewed as next year's scrap, aviation will be sure of a lively and prosperous future.

Get it there QUICKER—BY CLIPPER!

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A long list of products from radio tubes and dental supplies to spare parts for bulldozers is now being shipped by Pan American international Air Express . . . More COMMERCIAL cargo space is now becoming available aboard PAA's Latin American Clippers. It helps your consignees get more orders when they can say, in Mexico, "Flying time from 'most anywhere in the States is less than a day."

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¶ Within the borders of the U.S.A. the Railway Express Agency Inc. now picks up Pan American international Air Express shipments FREE in any of 300 principal cities and towns.

Airport For Tomorrow

You have just landed at ATC's new international air terminal in Washington and your tour of this functional airport is about to begin

THE lessons gained from three years' experience in global air operations are incorporated in the design of the new international air terminal of the Air Transport Command now nearing completion at Washington National Airport Army Air Base. This new terminal at the world's busiest aerial port of embarkation and debarkation is the first of its kind designed especially for the handling of international air traffic.

Aerial hub of the United Nations' war effort, the Washington National Airport Army Air Base is ideally located as ATC's Special Missions unit, whose principal function is the carrying to and from all parts of the world of VIPs *(Very Important People)* and PIPs *(Pretty Important People)*.

Here also are inspected, maintained and conditioned ATC planes assigned to the unit. And here, too, transient military aircraft from the battle fronts of the world receive routine and emergency servicing. Besides readying its own transport planes for Special Missions flights, personnel of the Air Base also perform aircraft modifications to suit planes to their individual climatic, geographic and non-combat military needs.

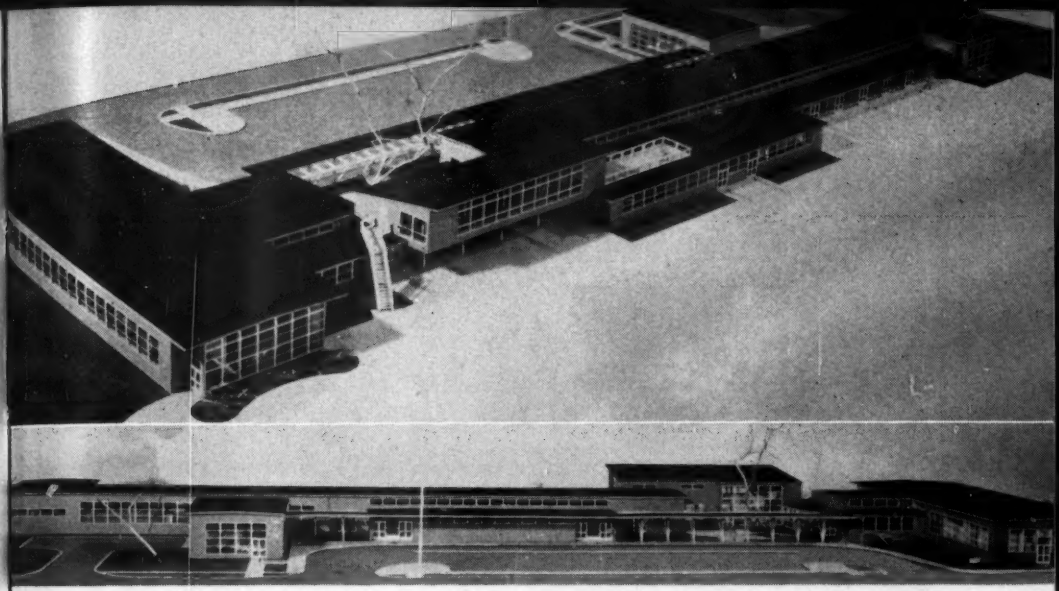
Administrator of these various operations is Colonel Frank H. Collins, Commanding Officer. He personally conducts the arrival and departure procedures of almost countless prominent government and military people, a roster of whom would make a veritable "Who's Who" of the United Nations.

Details of the unit just released by Colonel Collins are as follows. It includes: Passenger terminal and operations buildings; and air freight and mail building for priority mail and cargo; portable steel hangar, 200 ft. x 200 ft.; shops for plane servicing and maintenance; fueling facilities; 50,000 sq. yds. of concrete ramp for plane parking; and an extensive parking area for motor vehicles.

ATC's rapid expansion made it necessary to develop a building design free of structural complexities, which would be inexpensive and simple to construct, revise, and expand. It was necessary also that the design permit freedom in the development of proper circulation systems to expedite the movement of planes, passengers, baggage, mail, cargo, administrative activities, and motorized conveyances.

The new unit whose total cost is approximately a half million dollars is divided into several operating entities, each insulated by free land around it, thus making for easy expansion. These subunits are: (1) The terminal building, housing all functions concerned with passenger and baggage processing and servicing. (2) The operations building, containing all functions of pilot and flight administration and servicing. (3) The mail building, which includes those activities essential to the handling of diplomatic pouches, Government mail, soldiers' correspondence and other priority air mail. (4) The air freight building, equipped for the handling of priority cargo. (5) The hangar and shops.

The passenger terminal has extensive facilities for the processing of overseas passengers: Foreign detention, medical inspection, immigration, intelligence (Army, O.N.I., F.B.I.), radio message center, health bureau, customs inspection, censor, over ocean travel, briefing, ticketing and manifesting, courier offices, administrative offices. It also provides secondary passenger services: Rest rooms, public telephones and telegraph, motor transportation offices, information center for rail transportation, messing, billeting, personal affairs, clearance, Red Cross canteen, sub-Post Exchange, and lunch bar.



***FUNCTIONAL DESIGN** — Here is a model of the New Washington National Airport Army Air Base now nearing completion. The airport buildings are being constructed with the lessons learned from three years of global air operations, and with utility as the theme of the design and construction.*

The second story wing features a lounge area for high-ranking military, naval and diplomatic officials of all the Allied nations, members of Congress, etc.

In the operations building are the facilities for the control of aircraft arriving and departing, flight preparation, the clearance of pilots and planes, communications, weather, and briefing.

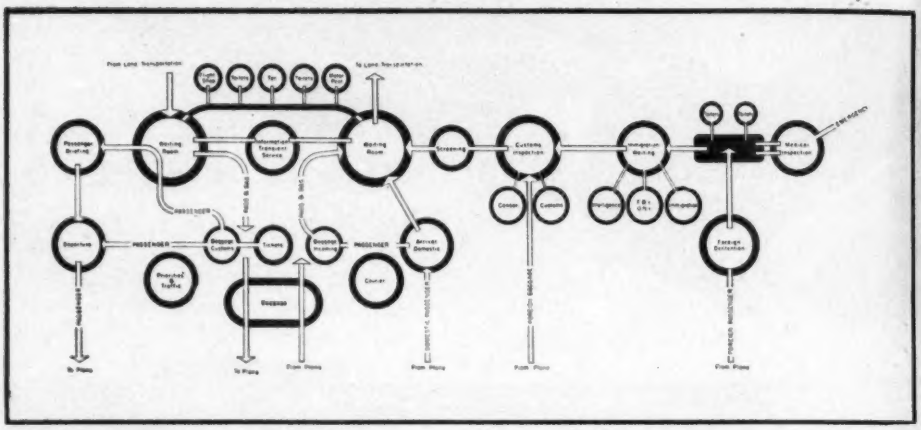
The entire layout represents a logical approach to several important problems: (1) The expeditious movement of many types of air traffic through circulation systems that do not cross, in order to eliminate confusion during peak load periods of traffic as well as during normal traffic flow periods. (2) Proper arrangement of administrative and operational activities in the sequence of their business flow. (3) The secondary servicing of passengers and pilots at the proper time and position in the flow of major processing. (4) Flexibility in space layout to permit revision and expansion.

Working within the limitations of military construction under a war program meant confinement to short-span wood construction and the elimination of complicated trusses for roofing large floor areas.

The building was designed around a simple structural spine consisting of a gridwork of wood posts 16 feet apart in each direction, carrying wood girders 16 feet apart and spanning 16 feet. These in turn carry wood joints 2 feet apart, spanning 16 feet. This post and lintel system freed the interior and exterior walls of any load-bearing requirements, resulting in complete flexibility of interior arrangement and building expansion. It also permitted the use of glass for approximately 75 per cent of the exterior wall area, which provides maximum natural daylight and ventilation.

No major innovations were introduced in the basic structural design, for reasons of material shortages. Framing is standard yard-size lumber in stock lengths, and the building envelop is of asbestos cement sheets. Projected wood sash are used throughout; exterior trim is wood painted white. The roof consists of diagonal wood sheathing covered with four-ply asphaltic felt membrane. It is hot pitch-surfaced with bluestone chips.

Interior offices have Gypsum board walls and ceilings painted in bright colors. Walls of the public spaces are sheathed in vertical cypress wood boards, greyed in tone and waxed. This material will require no upkeep during the life of the building. The ceilings in all public spaces are a sprayed asbestos possessing acoustical characteristics. The floors throughout are black marbelized asphalt



***PLANS** —This flow chart shows the step-by-step processing of embarking and debarking overseas and domestic passengers and baggage. The ultimate shape and plan of the terminal were determined after traffic movements had been plotted on a series of flow charts for both direction and time sequence.*

tile, laid in mastic on a concrete slab.

Lighting is of the incandescent type, and has been designed around the use characteristics of public and administrative spaces. The result is a system of unusual interest whose levels of illumination, expressed in foot candle values, are in accord with the best recommendations of the Lighting Institute and are consistent with the war program.

A gravity return heating system of the two-pipe type is employed. Radiators used throughout the terminal are the extended surface kind, made up of two-inch welded steel pipe encased by radiation fins of hot rolled strip steel. These radiators require less floor area than the free standing type and can be located either on the floor or anywhere along the vertical wall up to the ceiling.

The public address system will permit paging throughout the terminal by speakers operated separately or simultaneously.

The hangar is of the portable, modified theater of operations type pioneered by the Air Transport Command because of its demountable characteristics. It consists of 200 ft. steel arch ribs made up of bolted sections spanned and covered with ribbed steel decking. The sliding doors are made of a light steel framework covered with corrugated steel.

Facilities include: Machine, propeller, hydraulic, paint, wood. radio, and electrical shops; parts supply rooms, engineering offices, flight clerks' rooms, parachute and life raft rooms.

Service pits in the hangar area are installed in the concrete pavement, spaced to accommodate any position a plane may be in while being serviced. Drains at regular intervals assure a dry working floor at all times. Heating is by means of unit heaters suspended from the arch ribs. Lighting is the high bay industrial reflector type designed for high lighting intensities on the working plane area.

Designer of the Army Air Forces' new international air terminal is Charles M. Goodman, Principal Architect, Supply & Service, Air Transport Command. He has been associated with ATC since July, 1942, in the planning of air stations. Mr. Goodman was a practicing architect and builder in Washington, D. C., for a number of years and has designed many Government buildings, office buildings, airports, etc., throughout the United States.

Project Officer acting as liaison between ATC Headquarters and the District Engineer's Office is Captain P. J. Papadopulos, Engineering Officer, Engineering Division, Office of the Assistant Chief of Staff, Supply & Service, Headquarters, Air Transport Command. Capt. Papadopulos, a graduate of the University of Illinois, was formerly connected with the Federal Housing Authority. For ten years prior to that time he was in private architectural practice in Chicago.

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Washington	1180	19.18	108.55
Los Angeles	1239	20.13	113.98
Mexico City	934	15.18	85.92
Guatemala	1315	21.37	120.97
Cristobal	1945	31.61	178.92
Havana	1102	17.91	101.37
Bogota	2437	39.60	224.18
Caracas	2442	39.68	224.64
Quito	2573	41.81	236.69
Lima	3360	54.60	309.09
La Paz	3896	63.31	358.39
Santiago	4880	79.30	448.91
Buenos Aires	5280	85.80	485.71
Montevideo	5365	87.18	493.53
Asuncion	4766	77.45	438.42
Rio de Janeiro	5220	84.83	480.19

COMPUTED FOR 5-HOUR FLIGHTS

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Gasoline at 23 cents per gallon = 9.199 cents per long ton mile

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Guiberson

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ESTABLISHED 1919

DALLAS, TEXAS, U.S.A.

Air Packaging Is Growing

First national air cargo packaging forum considers vital role of proper containers and handling equipment at pioneering session sponsored by Aviation Section, New York Board of Trade

THE first national air cargo packaging forum, luncheon and exhibit, held under the auspices of the Aviation Section of the New York Board of Trade in New York City's Hotel Pennsylvania on Friday afternoon, June 23, attracted an audience of more than 500 representatives of the armed forces, federal agencies, airlines, and packaging, processing and shipping companies, who participated in this pioneering effort in air cargo packaging and air transportation.

Spokesmen for many of the nation's most important packaging firms and airlines joined with Army Air Force officials in giving testimony to the tremendous strides which cargo by air is making, and in holding up for examination some of the problems which must be solved in connection with its anticipated postwar expansion. John F. Budd, Chairman of the Aviation Section, presided at the luncheon, and Lyle C. Ray, executive vice president of the Aviation Packaging Company, served as chairman of the forum.

Paying tribute to the members of the Aviation Section of the New York Board of Trade, sponsors of the forum, for the sacrifices and contributions they made in wartime, Brig. Gen. John M. Clark, commanding general of the Middletown Air Service Command at Olmstead Field, Pennsylvania, told his audience that they, better than any similar group in the United States, knew the problems that faced the Air Service Command "when this sky delivery trail was first opened."

"You appreciate the perplexities in loading, packing and preparing for shipment," he continued. "Air transport before the war, had gone just so far. It was new. Suddenly all types of materials had to be delivered. There was no precedent for handling."

Gen. Clark traced the development of the Air Service Command, and added that today it has reached such a stage of efficiency where it can handle the following previously unheard of articles: storage batteries, properly stowed to prevent tipping and spilling; bombs, unfused, boxed and crated; liquid chemicals when protected against freezing; solid chemicals, films and flares in metal containers; instruments when properly packed; engines properly anchored; and finally, fuel, oil, acids, corrosives and inflammable liquids.

The General told his audience that the fundamental principle in packaging for Army air freight is to keep container materials as light as possible. Fibreboard, rather than wood or heavier materials, is generally used.

"It has been said," Gen. Clark concluded, "that movement of supplies by air is fundamentally a business. Such was certainly true until Dec. 7, 1942. But with war's outbreak, and the miraculous development of our facilities, air supply is now a weapon. Today war is a battle of supply trains. And supply trains in World War II move by air, as well as on land and sea. And so long as American business men and American soldiers and fighters continue to find the short cut, the victory of superior logistics will be ours."

Brig. Gen. William E. Farthing, commanding general of the Atlantic Overseas Air Service Command, and guest of honor at the luncheon, spoke briefly and hailed the packaging of freight for shipment as an important new development. "The freight itself," he said, "is worth getting to its destination, and therefore the packaging must be right."

Following the luncheon, panel leaders, including specialists in packaging and air commerce, opened the forum which was

presided over by Mr. Ray. Here are excerpts of some of the more important discussions:

George F. Bauer, international trade and air commerce consultant:

"The main goal towards which to strive would therefore seem to be the development of light and yet satisfactory containers to fit in with the requirements, and there are many requirements of the air age. May our explorations in this field and at this forum bring us closer to this goal for the helpful benefit of all of us."

J. D. Malcomson, Chief of the Technical Section of the Paperboard Division of the War Production Board, and technical director of the Robert Gair Company:

"It is quite probable that if the average shipper or air line traffic manager were to describe the ideal container for this service, as Mr. Bauer has just done, he would include among its properties light weight, adequate strength to retain and protect the contents, low cost, ease of packing, sealing and handling, rigid yet cushioned walls, a certain amount of thermal insulation and nation-wide accessibility. If he should include these properties, he would, in effect, be describing a corrugated fibre box. These containers made their astounding growth for shipment by freight, express and trucks entirely because of these very properties. Perhaps the best way to illustrate this growth is to remind you that the entire industry is only about forty years old, and its growth was only momentarily interrupted by the stock market crash of 1929 and the subsequent depression. In many industries the 1929 peaks were not regained until the present war, but in the fibre container industry, the peak of 1929 had been more than tripled within the next few years."

"... it is imperative for the airlines to get together immediately on a uniform container rule before waiting for the postwar rush, when increased competition and other distractions will make such an agreement more and more difficult to attain as time goes on."

Mrs. Ida Bailey Allen, home economist, radio broadcaster, author, consultant, and Women's Editor of Parade Magazine:

"In the food world, aviation, through air cargo, can open many new horizons. Fresh fruits and vegetables from other lands and regions can be flown into our own markets. Game and fish now scarce or rare, can be semi-processed and arrive so quickly that neither food-value nor flavor are impaired.

"One of the greatest jobs for air-cargo is fish. As a nation, we eat only 13 pounds per person a year—that's a mere quarter of a pound a week. One of the reasons so little fish is used is because it is hard to get in many sections. But this problem of distribution can be completely solved by the right use of the refrigerated air-cargo transportation of semi-prepared or semi-processed fish. And let me emphasize that phrase *"semi-processed,"* because the homemakers of tomorrow are going to demand time-saving foods which are already partly prepared."

"... I hope that the paper container industry will get together with the aviation industry now, and work out models for the adequate packaging of air-cargoed foods —containers that will be easy to open and that can be closed again for home refrigeration. Just one caution, however: see that the lettering giving cooking or serving directions is large enough to be read."

Louis de Garmo, vice president of the Albert Woodley Company:

"... the shipper still has to remember that it (the packaged goods) has to be picked up by a mule, maybe, and carried for four days in the jungle, or it may be twenty-eight days on a steamer in a hot hold, and delivered much further in four hours by air; and all those things have to be taken into recognition."

Earl French, national marketing director of the Atlantic Commission Company, Inc.:

"Packaging for air cargo must also take buying habits, price, and cost into consideration. In connection with buying habits, this means considering both the size or quantity of the contents and the retail price to be charged."

"... If air transported perishables are to reach a wide market, however, the cost of handling and packaging must be kept at a minimum consistent with attractiveness and construction. The extent of the market for air-borne items will be determined in good part by the differential between the retail prices of the air-borne articles and those transported by conventional carriers, even when due allowance is made for quality differences."

In replying to the question, "What are the packaging requirements for shipments

in international air commerce?" L. A. Cholot, Express Traffic Manager of Pan American Airways, declared in part:

"... we endorse and encourage light packaging, for goods which merit light packing, and when consideration is given by the shipper to the routing via other carriers and the type of such transit employed in order to get the shipment into the hands of the Air carrier, and also to the nature of the carrier who may handle the shipment after it leaves the Air carrier and is forwarded to final destination. We advise caution in this at all times, both by the shipper himself, and especially in publicity by the Airlines and/or Associated Aviation interests, otherwise we may find that the anxiety for publication in this direction, and which has been sponsored by aviation interests, has given the shipper a wrong impression and has been the means of causing the Air carriers a great deal of grief, economically and otherwise. Likewise shippers will also bring trouble upon themselves when their consignees complain of missing and damaged contents of shipments.

"A stitch in time saves nine—let that be remembered during these times when there is so much effort put forth to advance Air shipping, for, after all, it is transportation just the same, and certain principles must apply whether goods are carried in the Air or on the water or under the water, or on the rails or in trucks."

On the same question, Harmon Harris of Panagra Airlines, said:

"My suggestion is simply that the packaging people get together, if they haven't already, and set up here in New York, both for the shippers and the packaging people themselves, the air lines, and all allied trades, a permanent exhibit where people who are interested could go in—could look over those modern, new packaging materials and methods, and where they could decide for themselves just exactly what kind of packaging best suited their particular requirements."

Ward Johnson of American Airlines added:

"There can be a great deal of improvement made in reducing the packaging weight of shipments. There can be a great deal of improvement made in packaging directly for consumption abroad.

"In other words, identifying shipments with American trade marks right on the package itself to a greater degree than it is now done in surface transportation. And all in all, I think the opportunity for decreasing weight in packaging is going to be far more prevalent in international commerce than in domestic air commerce for the immediate future."

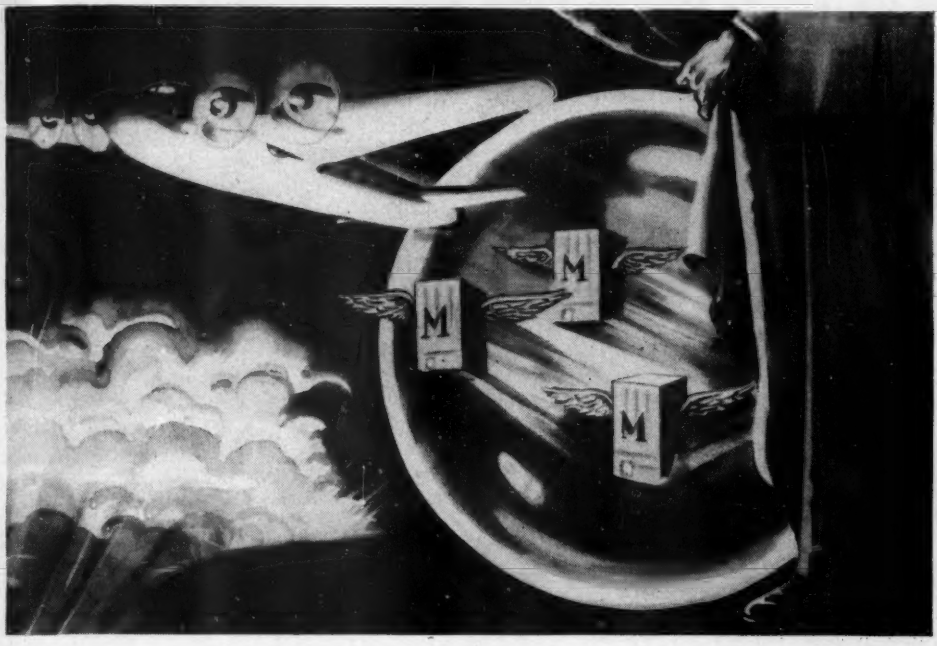
C. G. Peterson, chief engineer of the Railway Express Agency, on the question, "Would it be possible to effect an appreciable saving in the weight of packaging of shipments moving in domestic air express service without increasing the possibility of damage to the shipment?":

"... the average air shipment probably has at least ten physical handlings from the time it leaves the shipping clerk to the time the plane is ready to take off and on inbound shipments four to six additional handlings as a minimum. If there is a transfer, and tests have shown that about 40 per cent of the air express shipments are interline that require a transfer, then there would be still more handlings. This all indicates that the normal shipments are handled 14 to 16 times as a minimum, and many of them more—so the packaging must be strong."

Other speakers at the forum were Captain Saperstein of the Army Air Forces, George Griffith, American Home Products Corporation; S. E. Russ, eastern region mail and express department manager, T.W.A.; Robert Ruddick, cargo manager of United Air Lines; Harry S. Pack, chief of functional engineering and air cargo development for Pennsylvania-Central Airlines.

More than thirty displays by prominent companies in allied lines were exhibited during the forum.

Members of the committee on arrangements included Lyle C. Ray, Aviation Packaging Company, chairman; George F. Bauer, Trade and Air Commerce Consultant; John F. Budd, Editor-Publisher, AIR TRANSPORTATION Magazine; S. W. Burnham, Rep. Drug, Chemical and Allied Trades Section, N. Y. Board of Trade; Louis de Garmo, Vice-President, The Albert Woodley Co.; Harold Jackson, Chairman, Underwriters Committee (Aviation Section); Herbert Lyall, Chairman Airlines Committee (Aviation Section); J. D. Malcolmson, Technical Director, The Robert Gair Company; and Dan H. Ecker, Exec. Secretary, Aviation Section, N. Y. Board of Trade.



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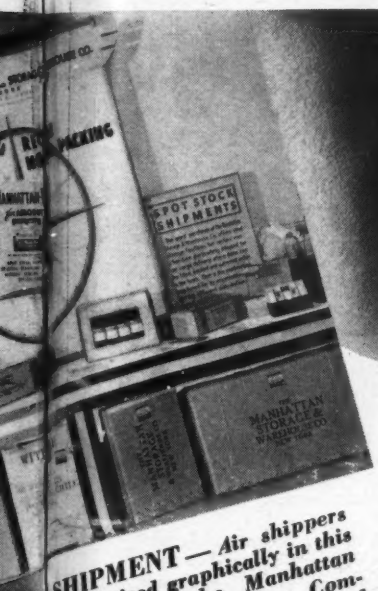
First National Air Cargo Packaging Forum of the

PRECIOUS CARGO *— Looking at the simulated brick of gold on display at the Pan American World Airways' exhibit are John F. Budd, chairman, Aviation Section, N. Y. Board of Trade; Lyle C. Ray, executive vice president, Aviation Packaging Company; Brig. Gen. John M. Clark, commanding general, Middletown Air Service Command, Pennsylvania; Brig. Gen. William E. Farthing, commanding general, Atlantic Overseas Air Service Command; and Matthew G. Ely, president, New York Board of Trade.*

PACKAGING *— Above stands the display of Robert Gair Co. On exhibit were containers suitable for shipping cargo-by-air. At the left is United Air Lines' striking exhibit.*

PERSONALITY *— Mrs. Ida Bailey Allen, (right), author, editor and radio broadcaster, holds the symbol representing the shipment of fresh fruits and vegetables by air.*

of the Aviation Section, New York Board of Trade



SHIPMENT — *Air shippers are advised graphically in this display of the Manhattan Storage & Warehouse Company that shipments destined to go by air require modern packing. New materials as well as deft and skillful packing are important in "wrap-ups" that go by plane.*

***UNIQUE**—Miss Kay Boddé, above, only woman airline traffic manager in the nation, stands beside a Northwest Airlines display at the packaging forum thereby calling attention to the new modes of packaging for air as well as an illustration of the line's routes.*

***SIZE**—Panagra is ready for cargo of any size as this exhibit displayed at the packaging forum illustrates. The huge carton, to the right, normally contains a Pratt & Whitney engine.*

Wartime Shortages Fail to Halt Expansion of South American Lines

WARTIME shortages of planes, equipment and manpower have failed to deter commercial airlines in South America from extending their services in recent months, and planning even greater expansion for the postwar period in almost every republic.

Recent developments, reported by the Office of Inter-American Affairs, include the Peruvian Government's approval for a new trans-Andean route for Panagra which, linked with Panair do Brazil, will form a new transcontinental air route in South America.

The new line will operate from Chiclayo, a port on the Pacific coast oi northern Peru, to Iquitos and Ramon Castilla on the Brazilian frontier, connecting with Panair do Brazil, which operates a service up the Amazon from Belem, at the mouth of the Para River on the Atlantic coast, to the Peruvian border. The United States Rubber Development Corporation, by agreement with the Peruvian Government, is starting a regularly scheduled passenger and cargo service in Eastern Peru. The acceptance of passengers and cargo, as well as the carrying out of the indicated itineraries, is conditioned upon the prior requirements of the Rubber Development Corporation.

Established itineraries consist of one regular weekly trip from Lima, Peru's capital, to Iquitos and return. Special flights will also be made between Lima and Pucalpa; Iquitos-Pucalpa; Iquitos-Caballacocha, and Pucalpa-Puerto Maldonado, for the purposes of the rubber program. In addition, when the planes are not required at any of the foregoing or other services, flights will be made between Lima and Chiclayo, Yurimaguas and Tarapoto.

Tariffs are approved by the Peruvian Government for cargo and passengers, with fifty-five pounds baggage allowance. Compania Aviacion Faucett acts as operating agents for the account of the Rubber Development Corporation in the management of two Catalina planes, and in the handling of passengers and cargo.

Also in Peru, President Manuel Prado has decreed the formation of the Peruvian Airport and Commercial Aviation Corporation (CORPAC), owned entirely by the government, with an initial capital of $1,538.000 (10,000,000 soles), in preparation for anticipated postwar expansion of commercial aviation in the republic. The charter gives the new government agency wide powers to organize and manage airports and domestic airlines, as well as "to coordinate international air transportation in the best interests of the country."

Air transport expansion plans are rife in Chile, too. The Santiago radio recently reported that President Juan Antonio Rios had approved appropriation of 20,000,000 pesos for construction of air fields in Chile, as well as for continued construction of the Antofagasta-Salta railroad.

In Brazil, Air Minister Joaquim Pedro Salgado, Jr., has stated, according to Brazilian reports, that several airfields, capable of accommodating large cargo planes, would be built in the State of Rio Grande do Sul as well as a pilot training school.

Panair do Brazil's new airfield Campo Grande near Asuncion in Paraguay was opened in April. According to press reports, Paraguay and Bolivia have exchanged notes calling for immediate inaugural of direct air service between La Paz, Bolivia's chief city, and Asuncion, Paraguay's capital.

Bolivia also has a new weekly airline connecting Tarija, in southeastern Bolivia, with La Paz. The airline, operated by Lloyd Aereo Boliviano, is the first air service to that portion of the country.

The organization of a new all-cargo air service to operate within Venezuela has also been announced. Called Aerovias Venezolanas, S.A. (AVENSA), it will serve interior points, carrying cargo on a charter basis as far as Santa Elena, near the diamond fields, in Ford tri-motor planes. Technical assistance will be contributed by Pan American Airways which will have a minority stock interest.

Pan American has doubled its air service between Miami and La Guaira, Venezuela, to provide six-times-a-week service to and from the United States.

A copy of the minutes of the 1st NATIONAL AIR CARGO PACKAGING FORUM, held at the Hotel Pennsylvania, New York City, on June 23rd, 1944, may be obtained by writing or telephoning to Dan H. Ecker, Secretary, Aviation Section, New York Board of Trade, 291 Broadway, New York (7), N. Y.

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IT'S AN Air (Trade Mark) WORLD

By L. A. GOLDSMITH, *Economic Analyst,* AIR TRANSPORTATION

SENHOR FRANCISCO DE ASSIS CHATEAUBRIAND, one of the most prominent Brazilian publishers of newspapers and magazines, as well as owner of numerous radio stations, is visiting the United States as guest of the Department of State. Among many other opinions voiced by Mr. Chateaubriand at a press conference in New York, he stated his belief that Brazil was the most air minded country in Latin America. He stressed the fact that there are 1200 airfields and 4000 civilian pilots in Brazil. He believes that the future of Brazil is definitely linked to a tremendous development of the natural resources of the country and the opening up of the vast regions of the interior of the country, hitherto practically untouched. Such a development will be greatly aided by the potentialities of air transportation. Of course, added Mr. Chateaubriand, "both capital investment and technical knowledge are the two basic requirements in order to commence to develop our resources and territory."

Brazil The Most Air Minded Country In Latin America, Says Assis Chateaubriand, Brazilian News Publisher

Mr. Chateaubriand's visit to this country should be of great benefit, both to the United States and Brazil. He thoroughly believes that the future of North and South America will be much more closely tied together than in pre-war years. He also pointed out that "the independence of the South American countries depends on British and American sea power and the Monroe Doctrine to keep free the Atlantic Ocean."

With the Chateaubriand keen and trained powers of observation, plus the power to transmit his thoughts, observations, and opinions through his string of 26 newspapers, 16 radio stations and 5 magazines, what he sees and hears and thinks is of primary importance. So that nothing is overlooked in the publishing field, Mr. Chateaubriand is also the owner of Brazil's biggest book and publishing house.

In view of this aggregation of power through the printed and spoken word Mr. Chateaubriand's trip to this country might be considered as important, if not more so, than many a much heralded diplomatic envoy. He not only wishes to promote friendship and understanding between his country and ours, but Mr. Chateaubriand also emphasizes the need for strengthening still further our already close business, economic and industrial ties. He is accompanied on this trip by his nephew, Fred Chateaubriand. The latter plans to spend some time here and will go on a tour of inspection of rotary presses and other printing equipment, in connection with future contemplated purchases after the war.

Two very important and interesting angles were further discussed and highligted by Mr. Chateaubriand, both of which are extremely important to this country. One phase is the earnest attention Brazil is giving to a well planned and selective immigration development after the war. The type of immigration is required that will strengthen Brazil's population and help in developing the human element needed to foster the great resources of the country. Now this is a very interesting factor. Already Brazil with more than 45 millions of inhabitants is way ahead of any other South American country in size of population. With her own natural and normal increase of population, plus a steady stream of *selected* immigrants, Brazil stands at the threshold of a very great potential future, in the coming decades which will see the growth of a new generation—a generation which we look forward to as good neighbors—good friends and good customers.

And, so says Mr. Chateaubriand, "that new generation as well as the present generation must learn to know more about their North American neighbors—the citizens of the United States. To that end he suggested to President Getulio Vargas, just before he left on this trip—that a Brazilian Institute should be set up in the United States. The object of such an Institute would be primarily to finance visits to the United States of Brazilians in various walks of life—not necessarily to study anything but just to get acquainted, and "absorb the manner of living and doing and achieving." As Mr. Chateaubriand puts it with a twinkle in those observing eyes, "I would like to have more Brazilians see your energy at work."

IN all the press reports of the discussions and meetings at the Bretton Woods Monetary Conference, I have looked in vain for any mention of aviation or air travel. By this I mean the potential importance of American air travel abroad, and the significance of this factor in our International Balance of Payments. In the postwar era, foreign travel abroad by Americans, always considerable, will be stepped up greatly by aviation. The number of people who will be able to travel to, and in foreign countries for either business or pleasure will be increased. The reason is of course simple—it is a question of time. People who ordinarily have but two or at most three weeks of vacation a year, did not have the travel time at their disposal, even if they had the money. In the days after the war, that will be different. With the time element reduced to anything from a few hours to perhaps 24 or a little more, a trip to far distant lands will be possible on a two or three weeks' vacation. The number of people who will be able to travel abroad may even be doubled. In such a case, the expenditures incurred by Americans in foreign countries will also be greatly increased—perhaps doubled.

Significance of Aviation Apparently Overlooked at Bretton Woods Conference

Such increased travel abroad by air would mean far more than an individual enjoyable vacation for those of us lucky enough to make such trips. It would mean a tremendous increase in our "invisible" imports and a corresponding increase of dollar exchange balances in our international balance of payments.

Air Travel and Tourist Trade Might Solve The Difficulties Now Stumping the Experts-How To Increase Dollar Balances

To visualize what such increased "invisible" imports resulting from greater travel expenditures made by Americans in foreign countries would mean to us, let us take a look at the record in the lush year of 1929. According to the Department of Commerce, the expenditures of traveling and resident Americans abroad amounted to a little less than half a billion dollars in the peak year of 1929. That is only for the expenditures made in the foreign countries themselves. This does not take into account the costs of transportation which often occurred on foreign vessels and this also swelled our American "invisible" imports account of dollar balances.

This huge sum of slightly less than half a billion dollars in any one annual period, fell off sharply during the depression—almost 60% between 1929 and 1933. But even so, over the inter-war period as a whole, these travel expenditures of Americans abroad amounted to $6,000,000,000—*six* billion dollars which could be used by foreign countries to make purchases of U. S. goods and products—*six* billion dollars eventually flowing into the pay envelopes of our employed American workers, as well as to the profits and dividends of our industrialists and investors.

The Department of Commerce comments upon the importance of this travel factor as recently as the latter part of 1943, when they point out in one of their official publications that "Travel by residents of the United States in foreign countries has constituted one of the most prominent, and on occasions, *spectacular* features in the economic and social relations between this country and other countries, and *one of the most consequential items* in the balances of payments.

In the peak travel year of 1929 already mentioned, 384,000 U. S. Citizens left this country to visit Europe, South America and the Far East.

Vast Potentialities In Future Air Travel May be Partial Solution To Stabilization Worries

Now if this number of people travelled abroad with only steamship accommodations at their disposal, think how many more could contemplate such travel, when their available time will permit this additional travel by air. The Department of Commerce also comments on this very subject, when it says "After 1929 air travel increased steadily within the Western Hemisphere. This development represented in part a diversion from other types of carriers, but it also opened up new opportunities for pleasure and business travel by persons of adequate financial means, but with limited time at their disposal. By the end of the thirties, air transportation had also begun to play a modest role in travel to Europe and the Far East—an augury of its *vast potentialities* for the future."

When you can fly to London or Paris in 10 or 11 hours, 16 hours to Moscow Istanbul, or Rio de Janeiro—18 hours to Buenos Aires or Cairo, and possibly 26 hours to Chungking or Capetown, the element of time on two weeks' vacation hardly enters into the consideration of a trip abroad. These time factors are as given by official governmental estimates.

And the cost of these air vacations abroad is also within reach of modest pocketbooks, especially if one can save up from one vacation year to another. Pan American Airways put out some tentative figures and time schedules in April of this year, such as Paris, 15 hours—one way $112.50; round trip $202.50. Buenos Aires 22 hours—round trip $291.60, and if anyone is interested—Berlin 16 hours—one way $120.00; round trip $216.00—and Tokio, 26 hours and 36 minutes—one way $207.00; round trip $373.60.

The experts at the Bretton Woods Monetary Conference appear to be stumped on the vital matter of how to increase American Imports from the world at large. Yet this factor of travel expenditures abroad by American citizens, and especially the potentialities of increased travel abroad by air, has not been mentioned in the public reports of the conference. Undoubtedly this factor must have been taken into consideration and discussed, if not publicly, at least privately or "off the record;" because all financial experts certainly know how supremely important this factor of American "invisible" imports, is to the International Balance of payments.

Why Has No Public Mention Been Made Of This All Important Factor of Air Travel

So as a parting thought, we leave this query with the monetary experts to ponder over. If American traveling expenditure abroad reached the huge sum of just a little less than half a billion dollars in 1929—surely with the "vast potentialities" envisaged for the post-war civilian air age, could not these future American traveling expenditures, be estimated to reach at least a billion dollars in a very few years? Might not such an additional sum of American "invisible" imports make all the difference in the world to the vexed question of the International Stabilization Monetary fund? And if not—why not?

So, all Air Lines, PLEASE TAKE NOTICE—irrespective of what eventual international policy is evolved "chosen instrument" or whatever; you, of the air lines are elected to educate the American traveling public to know what a great advantage their air travel trips abroad will mean in increased employment for Americans at home. For when such traveling expenditures in foreign countries are translated from the technical jargon of "invisible" American imports, they become the means of creating *visible American exports* of goods and products produced by American workers and paid for by American dollars, and finally into American pay envelopes.

Applause for Goldsmith

In a recent issue of AIR TRANSPORTATION L. A. Goldsmith's feature, "IT'S AN AIR WORLD" carried a lead article on our Panagra English-Spanish dictionary. . . .

To our way of thinking, Columnist Goldsmith has a very appealing and imaginative style which lifts the feature above the run-of-the-mill category and puts them in a class of their own.

This particular story was released only to the Goldsmith column and you'll be interested to know that the very day we received our copy of AIR TRANSPORTATION we also received seven postcard inquiries for the dictionary—which speaks well not only for your publication but also for that light yet factual Goldsmith touch.

HARMON A. HARRIS
Pan American-Grace Airways
New York

A well-deserved bouquet to Columnist Goldsmith along with many thanks to Reader Harris. This is, however, not the first time "IT'S AN AIR WORLD" has broken a story for the first time anywhere, surely won't be the last.—EDITOR.

A copy of the minutes of the 1st NATIONAL AIR CARGO PACKAGING FORUM, held at the Hotel Pennsylvania, New York City, on June 23rd, 1944, may be obtained by writing or telephoning to Dan H. Ecker, Secretary, Aviation Section, New York Board of Trade, 291 Broadway, New York (7), N. Y.

Economics of Air Transport Service Show Little Need for Federal Control

The economic characteristics of air transport service differ so markedly from those of railway and highway transport service that there is not the same need for government regulation, in the opinion of John B. Crane, Chief of the Transportation Unit, Bureau of Foreign and Domestic Commerce.

Writing in the Summer number of the "Harvard Business Review," Mr. Crane declares, "Air carriers face a higher degree of competition at more points than do the railways, and in the case of their air carriers competition is less destructive."

Mr. Crane analyzes data for 1940 and 1941, disregarding the war years because they are abnormal. He shows that carriers of medium size have costs as low or lower than those of the Big Four—American, United, Eastern and TWA. After examination of factors which might offer alternative explanations for the behavior of cost figures—geographical locations, schedule frequencies, rates of depreciation, load factors—Mr. Crane concludes, "The costs of air transport tend to remain constant, rather than to decrease . . . after a certain scale of operation, not very large, has been achieved.

"The imposition of comprehensive Federal regulations and controls in 1938," Mr. Crane writes, "has prevented competitive forces from having free play in the industry, but has led to the building of a limited number of lines, more or less in balance, with competition at several key points."

"With the anticipated rapid increase in air traffic volume after the war," a larger number of air carriers than now certificated by the government would be economically justified. An additional number of air carriers would increase the degree of competition in the industry and thus help the consumer of air transportation services to secure the earliest possible reductions in tariffs and charges arising from technological improvements and lower cost factors.

"Even though adequate government controls over rates, finances, safety, consolidations, and airline routes ought to be retained in recognition of the fact that air carrier operations are not 100 per cent competitive, nevertheless the desirability of federal control over rights of entry into the field or the number of trips to be operated between any two points is questionable."

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Uniform Regulations for World-Wide Air Cargo Shipments Held Needed

Adoption of satisfactory uniform laws on international air cargo shipments and the documents relating to such shipments to facilitate and aid their financing is urged by A. M. Strong of the Public National Bank and Trust Company, New York City, as chairman of the committee on uniformity in documents and practices of financing of air shipments of the Bankers Association for Foreign Trade.

Following studies of the airway bill, insurance and other matters relating to bank financing or air shipments, Mr. Strong concludes:

"International trade is not, as a rule, conducted on a cash-in-advance basis and air transportation of cargo between countries cannot develop fully without bank financing. Such financing normally requires suitable documentation, including an airway bill giving the consignee clear title to the goods and containing reasonable liability clauses distributing responsibilities equitably. The insurance coverage should be designed to fulfill the needs of all interested parties.

"The airway bill presently used and the insurance provided do not meet these requirements. The international agreements referred to do not adequately deal with or entirely fail to provide for air shipping documents."

The following recommendations were proposed by Mr. Strong:

1. "That a coordinated effort be made to devise a uniform negotiable or non-negotiable airway bill suitable for bank financing;

2. "That comprehensive uniform laws be adopted with regard to international air cargo shipments and the documents relating to such shipments;

3. "That the Uniform Customs and Practice for Commercial Documentary Credits be amended to include air shipping documents;

4. "That until a satisfactory uniform airway bill is adopted, the operating airlines take steps to revise their airway bills in line with the principles outlined in this Report, and

5. "That the airlines offering insurance cover both ordinary and war risks unless an arrangement is made for an interim settlement when it is difficult to determine the cause of the loss.

"There is every indication that air transportation of cargo is becoming an increasingly important industry. The adoption of uniform documents and regulations will be of material assistance to all concerned."

Mr. Strong said the committee found the diversity in the present methods of consignment and in conveying title to the goods, and the liabilities imposed upon the consignee warrant caution in financing air shipments.

Study of the subject discloses, however, that many complex problems are involved and that the coordinated effort of air carriers, express companies, banks, and competent international agencies will be required to evolve methods and documents suitable for such financing.

Discussing diversion of shipment at the request of the shipper, the committee said that arrangements with the companies that cover for the present practically the entire field of cargo transportation by air assure that no diversion of merchandise will be permitted unless the consignor presents the shipper's copy of the airway bill or provides adequate guaranties.

Here is the Evans Sky-Loader Tie-Down Equipment exhibit at the Army Air Show in Detroit. The display illustrated the new equipment which is used in loading and securing cargo in preparation for air voyages. A special feature is the small package container which is now being used by the various transport services for shipping small packages, including blood plasma.

Hartford Means Business

This quiet Connecticut capital is selling air cargo as well as itself in a frank and open recognition of this new commercial commodity

By Raymond B. Fernhead

Executive Secretary, Metropolitan Development Council, Hartford, Conn.

THE central, northern and eastern areas of Connecticut with the western area of Massachusetts form a compact industrial unit within which are made a great variety of world-trade products that possess the outstanding attraction of being so compact of size and weight as to make them "preferred merchandise" to move by air. It is because of the extent and variety of this type of production, here, that more than ordinary importance attaches to the bearing that this circumstance may be expected to have upon the need of the airlines to assure the development of ground facilities with good accessibility to a natural concentration point—in this instance it is Hartford—for large assortments of desirable air cargo.

So it is worth keeping in mind that although this discussion is based on the air freight potentials of the Hartford area, comparable facts that will be found to exist elsewhere will carry the same meanings in relation to many another equally logical concentration center where freight originates. For that reason an understanding of the Hartford air-cargo viewpoint may prove helpful to the airlines, the shippers and the receivers of goods among whom there is a practical interest in the question of where the line is going to be drawn as between the proposition that pre-war shipping centers will dominate post-war air commerce, and the other proposition that post-war air commerce will substitute industrially centered airport facilities in the place of the old concept of ports dominated by water-bourne carriers of freight.

Without going too deeply into the matter (and so avoiding those always embarrassingly detailed counterclaims by proponents of status-quo shipping) let us admit at once that Hartford does not purpose to project for itself a future to include seaport facilities, though it might reasonably advance the fact that the Connecticut River could be channelled for deep-sea cargo ships just as readily as Houston, in Texas. went the same distance to salt water to bring ocean-going freighters to meet the rail and highway carriers within the city's gates. No, we will forego that delicious prospect and simply present the reasons for Hartford's belief that it is destined to possess an enviable future as a concentration point for valuable tonnages of products that the air lines will want to be able to come to Hartford to gather up.

For instance, many hundreds of items made in the area are found to be on the list of potential air cargo merchandise that the publisher of Air Transportation some time ago compiled. Add the fact that the Foreign Trade Committee of the Metropolitan Development Council has gone on record as believing that every manufacturer, small or large, ought to allocate twenty per cent of his post-war production to foreign trade. Then note that the Connecticut State Development Commission has a brochure designed to aid all manufacturers to develop foreign trade methods and connections. All this is in line with the objectives of the Manufacturers' Association of Connecticut which has long and effectively encouraged foreign trade and issues a booklet naming the export items made by its members.

Of course those are interesting and useful steps, but Hartford is also taking the

further practical step essential to assuring that no air line need go without its share of the air freight in the making here. First I must explain that the Metropolitan Development Council contains twenty-four special purpose committees and that every one of them is composed by representative men of the area who have a practical interest in the purpose of the committee to which they are attached.

The appropriate committees have endorsed the creation of warehousing facilities that will enable the manufacturers of the area to concentrate their finished products here where the goods will have accessibility to air, rail, highway and river carriers. Any way it is viewed, from every angle this is an area seen to show awaredness of the meaning of air freight's importance to Hartford's place in commerce. Not that anyone is thinking in terms of shipping everything and everywhere by air. But the pressing need to get a lot of each of a lot of things to a lot of places around the world, and fast, after this war, is fair indication that air facilities at Hartford will have to be of the best.

To the man who still thinks that air-cargo has many evolutionary stages to go through before it arrives at dimensions of consequence I have a very short story to tell. A nephew who rides the air as navigator of an army transport plane recently wrote this: "Yesterday I was over the Atlantic and today over the Pacific. It's something to get used to." Think that over, Mr. Evolutionist. In this I'm a Fundamentalist, personally.

***AIR CARGO TEST**—Dr. R. W. Hoeker, right, United States Department of Agriculture Marketing chief, and L. C. Cole, TWA station manager, load a crate of lettuce aboard a TWA plane to begin a government test of the feasibility of air cargo shipments of California lettuce. Attached to the crate is a special recording thermometer to register altitude temperature changes.*

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Air Shipment of Lettuce Subject of Tests by U. S. Department of Agriculture

In an effort to determine the feasibility of shipping fresh fruits and vegetables by air, the United States Department of Agriculture has started the first in a series of experiments to prove the practicability of shipping lettuce, one of California's most important crops, by plane.

At Los Angeles recently, Dr. R. W. Hoeker, head of the fruit and vegetable marketing section, boarded an eastbound TWA plane with a 250-pound shipment of lettuce. Three sets of recording thermometers were used to graph temperatures inside and outside the carrying crates.

Upon arrival at its destination the lettuce will be subjected to laboratory tests to determine the effects of varying temperatures from sea level to 13,000 feet. The bulk of the lettuce will be offered for sale at unadvertised eastern stores. It will carry a premium price representing the added cost of air transportation. While the lettuce will be placarded in stores, the location of these stores will not be announced in order to prevent a rush of curiosity buyers.

In this way, it was said, the Department of Agriculture hopes to find out the effect of air transportation on lettuce, a perishable vegetable, and whether the eastern housewife is interested in paying a premium for lettuce picked only a few hours before in California.

Aviation Should Aid Vets, Aeronca Head Says

"The future popularity of flying will create a new and aggressive peace-time industry, affording regular employment to millions," declares John W. Friedlander, new president of Aeronca Aircraft Corporation, manufacturers of military planes and pre-war aircraft.

In his first statement as president of the corporation, Mr. Friedlander asserts, "Our first duty now as aircraft manufacturers, is to devote our full time and efforts to supplying the boys on the beachheads throughout the world with the right equipment at the right time, yet the same time it is difficult not to think occasionally of their future when victory is won. Aviation should offer them many profitable opportunities in familiar work that will also strengthen our commercial and military might."

Other officers of the corporation in addition to Mr. Friedlander are E. S. Sutherland, executive vice president; Carl Friedlander, vice president; E. H. Wideman, vice president and director of purchases; A. H. Helmers, secretary-treasurer; and Al Bennett director of sales.

World Air Routes To Avoid Sea Lanes Survey Discloses

A survey conducted for the Brookings Institution of Washington by J. Parker Van Zandt, former consultant to the Civil Aeronautics Board, shows that world air routes in the future will avoid to the greatest extent possible long, trans-oceanic flights, thus creating a new conception of geography in relation to world trade areas.

According to the results of the survey the chief air routes of the future will be concentrated in the one-half of the world in which there is supposed to be 98 per cent of the world's industry and 94 per cent of its population. Dr. Van Zandt calls this one-half of the world the "principal hemisphere." It has its center in western France and includes Europe, North America, Africa, nearly all of Asia and much of South America.

The Pacific Ocean, Dr. Van Zandt predicts, will not be important in the trunk air lanes of the future; nor will the North Pole because few major airways will go as far north as the Arctic Circle since the shortest routes between population centers do not lie in that direction.

For revenue purposes, the survey reveals, the air lines must necessarily consider intermediate as well as long-haul traffic, and for that reason the principal routes may not be by the shortest distances between terminal points.

Dr. Van Zandt expects that the air lanes of the future will not even run remotely parallel to established steamship routes between major industrial areas or population centers of this or other continents.

New England Linked To West Coast by New Route

New, direct one-carrier air passenger-mail-express services to key points across the United States will be available in Boston, Hartford and New England generally as a result of approval by the Civil Aeronautics Board of an application filed by United Air Lines to operate into the New England area.

United was granted authority to operate between Boston, Hartford and Cleveland, there linking up with its present transcontinental route to Chicago. Omaha, Denver and all major Pacific coast cities. Service will be inaugurated as soon as equipment becomes available and authority is given on the basis of wartime needs.

Plans are afoot to use planes in the post-war period that will cut the elapsed time between Boston and Chicago to less than 3 1/3 hours; and from Boston to the Pacific coast approximately 12 hours.

Stanton and Wilson Emphasize Importance of Post-War Air Power

Two of aviation's most important figures have joined in emphasizing the importance of post-war air power to the survival and prosperity of the United States.

Speaking at the 75th Quarterly Meeting of the New England Council in Boston recently, Charles I. Stanton, Civil Aeronautics Administrator, predicted that there would be in the United States 300,000 civilian planes and 6,000 airports within four years after the war ends, as compared with 25,000 planes and 3,000 airports today. The plane figure was termed "small" by Mr. Stanton in a comparison with the 32,000,000 automobiles registered in this country in 1941.

"No modern nation," Mr. Stanton told his audience, "can survive and prosper without air power. The base of such air power is a sound civilian aviation structure."

Mr. Stanton said the problem of financing and building the airports could be solved by the federal and state governments becoming partners in building airport systems in general accord with principles worked out in building our national highway system.

"Nine out of ten of the 300,000 civilian planes will be small aircraft flown by private flyers for business or pleasure or both," he continued. "Most of the younger generation is going to learn to fly whether we like it or not. Some parents undoubtedly will object, just as some parents objected to our driving or even riding in automobiles or just as their parents in turn had doubts about the bicycle."

The private planes of the future will fall into three general categories, Mr. Stanton believes:

1. Conventional designed plane, seating 2 to 8 passengers, with a 90-100 mile-an-hour capacity and a cruising range of 400-600 miles. Cost about $1,000-$20,000.

2. The "armchair" plane, slower, less maneuverable, simpler and safer to fly, 2 to 6 passengers, at 90-150 miles an hour, at a cost of $1,000-$10,000.

3. Helicopters, rocket ships, roadable airplanes, with detachable wings.

The second speaker, Eugene E. Wilson, vice chairman of United Aircraft Corporation and chairman of the Board of Governors of Aeronautical Chamber of Commerce of America, pointed out that "air power is vital to peace as well as war," and added that lack of adequate reward, impaired the incentive of technological air progress in this country.

"We must again make it unqualifiedly attractive for every man and woman to work, to invent and to create," he said. "It behooves us to maintain our air power at the peak of efficiency to preclude a successful assault upon ourselves or our possessions and then to keep the peace. Strangely enough, we have reason to fear for our technology at the moment. An Old World virus is in our blood, and public opinion today is inimical to technological progress. The old incentive, once so potent, is now anemic. It needs a shot of penicillin to restore it, and needs it quickly."

Ralph S. Damon, vice president and general manager of American Airlines, asserted that air transportation would be a supplement to existing modes of transportation, but would never supplant them except "in certain limited instances."

"Air Transportation," he said, "will have its greatest utility in the long-range high speed field. If you can do the same job on the ground in the same time at the same cost with the same safety, then there is no advantage to air transportation. I think this will be particularly true of short-haul traffic."

Mr. Damon announced that American Airlines intends to provide air service across the North Atlantic immediately after the war.

Joseph T. Geuting, vice president of the General Aircraft Corporation, declared that "the low cost of private planes, the volume in which they will be produced and therefore the future of civilian flying, depend upon the development of landing facilities for the use of plane owners." Mr. Geuting advocated the establishment and construction of airports, airparks, flight-stops and air harbors. He identified airpark as a community center of fixed size, costing from $10,000 up. Flight-stops are runways built adjacent to highways at a cost of from $6,000 to $10,000.

Plans to operate five air pick-up routes in the New England area were disclosed by Charles W. Wendt, vice president-treasurer of All American Aviation, of Wilmington, Del.

PCA Seeks New Great Lakes-Florida Routes

New routes, designed to benefit a population of 15,000,000 people in the area between the Great Lakes and Florida, are being sought in an application which Pennsylvania-Central Airlines has recently placed before the Civil Aeronautics Board. Four proposals involving air services between Chicago and Miami, Detroit and Miami, Detroit and Norfolk, and between Chattanooga and Ashville are charted by PCA in the application which seeks to provide one-carrier service to and from the twenty-five cities involved.

Sky Movement of Perishables and Manufactured Goods Subject of Study By New Freight Research Organization

The study of post-war air cargo problems; now a joint project of Edward S. Evans Transportation Research in collaboration with the United States Departments of Agriculture and Commerce, is pointing up air transportation of perishables to consuming markets and return flights with manufactured goods of high potential time value.

Not only will this new broad transportation research project study the reciprocal sky movement of perishables and manufactured goods, but will also investigate the extent to which surplus war transport planes can be converted to practical peacetime use as contract carriers for domestic and foreign commerce. The findings of these studies will be published periodically as a public service and are intended to provide an over-all picture of post-war freight transportation. The new research project was founded by Col. Edward S. Evans, Detroit industrialist, who initiated the Wayne University Air Cargo Research project in Detroit in 1942.

"Whether the best post-war interests of the consumer, the producer, and the manufacturer will lie in the fleet operation of contract carriers will be indicated through research," Colonel Evans said. "Contract carriers could serve as tramp steamers of the air, able to go where the business lies, permitting the most direct interchange between the leading agricultural producing areas of the country and the principal manufacturing centers at the lowest cost with the greatest saving of time.

"They would give great flexibility to our transport service in both the foreign and domestic fields. They will offer opportunities to our existing air line operators who desire to broaden their service as well as to those who desire the opportunity to undertake innovations in the field of air transport."

The current study, which is the first under the new project, is devoted to the east-bound movement by air of perishables of the lettuce variety from the Pacific coast and the return haul of manufactured products from Detroit to the west coast.

One of the broader aspects of the new study being carried on with the Bureau of Foreign and Domestic Commerce is the air transport of manufactured articles to the principal and potential gateways of the United States.

Also collaborating in the project are the United Fresh Fruit and Vegetables Association and the Detroit Board of Commerce. Allen Dean, manager of the Transportation Bureau of the Detroit Board of Commerce, is a consultant on the project. Col. L. H. Brittin, founder of Northwest Airlines, has been named director of the Evans Transportation Research, with headquarters in Washington.

Government officials meet in Washington with Col. Edward S. Evans, Detroit industrialist and international loading authority, to study the use of war planes to haul peacetime cargoes. William A. M. Burden, assistant secretary of Commerce, left; Col. Evans, center; and Secretary of Agriculture Claude Wickard, right, are shown discussing plans for the first reciprocal sky movements of perishable and manufactured goods under the Evans Transportation Research program in collaboration with the United States Department of Agriculture and the Department of Commerce.

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Feeder Airlines Form Permanent Group

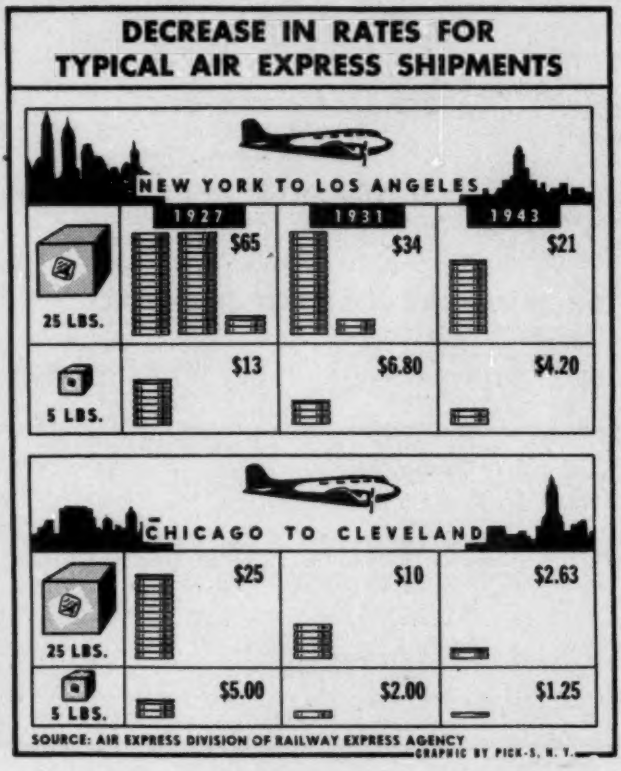
The newly-organized Feeder Airlines Association, which has just completed a two-day organizational meeting in Washington, D. C., has named Harry Stringer, vice president of All American Aviation, Inc. as its first president.

The new group will seek to encourage the establishment of a comprehensive network of feeder airlines as an integral part of the nation's air transportation system and to extend to the maximum number of persons the advantages and benefits of direct air service for mail, persons and property, and to encourage the use of air transportation.

Other officers of the new permanent group are William R. Kent, president of Southair, Inc., vice president; Joseph J. Mitchener, Jr., general manager of Hawthorne Airways, treasurer; and Bowman R. Otto, president of Otto Aviation Corporation, secretary.

Express Shipments Rise 27.8%

Air express shipments handled through La-Guardia Field, New York, during May averaged more than 1,800 shipments a day, and marked up a 27.8 per cent increase over May, 1943, the air express division of Railway Express has reported. For the five-month period, January to May, air express shipments moved through the New York airport totaled 268,829, an increase of 23 per cent over the 1943 period.



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—The air express division of the Railway Express Agency depicts graphically the downward trend of shipping costs. Added to this, it is pointed out, is increased speed, improved efficiency and greater frequency of air express service. Rates from New York to Los Angeles decreased more than 66 per cent for 25-pound units of freight between 1927 and 1943. Rates for shipments from Chicago to Cleveland for units of the same weight decreased more than 85 per cent over the same period.

Continental Seeks Routes

Two applications to institute commercial air service between Dallas-Fort Worth and San Angelo and Dallas-Fort Worth and Tulsa, Oklahoma, have been filed with the Civil Aeronautics Board by Continental Air Lines. There is no direct air connection between San Angelo and Dallas-Fort Worth, and Dallas-Fort Worth-Tulsa at the present time, according to Terrell Drinkwater, executive vice president.

Return 15 Planes

The Civil Aeronautics Board has been notified by the War Department that 15 additional DC-3 type transport airplanes were returned to the domestic commercial airlines recently. This brings the total number of transport planes in service by the domestic airlines to 257, as compared with 324 in service in May, 1942, before the Army took over about 50 per cent of the airlines' aircraft.

The airlines that received these airplanes include: United Air Lines, 6; American Airlines, 5; Northwest Airlines, 1; Eastern Air Lines, 1; Braniff Airways, 1; Pennsylvania-Central Airlines, 1.

Busy Bees Wing Way To Alaskan Northland

With nary a wing beating the ozone, 10,000 bees flew from Seattle to Fairbanks, Alaska, recently. This phenomenon, a major achievement in air cargo operations, was completed by the express department of Pan American World Airways Alaska Sector.

Transported from California more than 2,270 miles in three days by Railway Express and Pan American Lodestar plane in special containers, the bees were delivered to Julian Guy Rivers, a Fairbanks attorney, whose hobby is bee raising.

The flight represented one of the few successful attempts to ship bees by Alaska, and demonstrated at the same time the widespread uses to which air cargo shipping can be put.

Pan Am Serves Montevideo

Direct international air service to Montevideo, capital of Uraguay, by Pan American Airways clippers has recently been started. Montevideo has been made a regular stop on all clipper flights between Buenos Aires and Rio de Janeiro using the coastal route, and will be served six times weekly to and from both cities.

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Half-Yearly Estimates Up For Domestic Carriers

Half-yearly traffic estimates for the domestic airlines show sizeable increases in all departments, Colonel Edgar S. Gorrell, president of the Air Transport Association of America, reports.

Revenue passenger-miles flown during the first six months are expected to exceed 888,000,000, an increase of 20 per cent over the more than 735,000,000 passenger-miles flown in the first half of 1943. Colonel Gorrell estimated mail pound-miles at 41,572,000,000, which would be more than 30 per cent above the 31,936,867,978 reported in the first six months of last year. Mail pounds carried are expected to reach 65,600,000, as compared with 50,504,847 in a comparable period a year ago, a gain of more than 29 per cent.

Express pound-miles flown by the domestic carriers are estimated at 15,227,000,000 for the six-months period, an increase of 7 per cent over the 14,580,244,112 reported during the first six months of 1943. Express pounds carried are estimated at 31,500,000, as compared with 28,776,456 in the first six months of last year, a gain of more than 9 per cent.

Trans-Canada Extends Service

With schedule changes effective July 1, Trans-Canada Air Lines will provide service to Fredericton and St. John, New Brunswick via Blissville Airport. A new over-night service between Toronto and Halifax, and a new late afternoon flight leaving Toronto at 5:40 P.M. daily, for Windsor, Ontario, with connection for Detroit and Chicago, will also be provided.

ATA Office Closed In N. Y.

The Air Transport Association of America has closed its New York office as of June 30. The office was opened last Fall. Col. Charles Hart, who had managed the office for ATA's Joint National Advertising Committee, resigned to join the Erwin-Wasey advertising firm which handles the Association account.

Aerial Newsboy

As a practical and unique example of shipping cargo by air consider the project undertaken by The New York Times which shipped copies of the paper to both the Democratic and Republican conventions in Chicago by air express so that convention delegates could buy them at breakfast. The papers were carried by American Airways, United Air Lines and Transcontinental & Western Air Inc., with priority traffic as the determining factor.

Post-War Air Policy Seen as Essential

"A permanent representative international board with well defined power must be set up to regulate air traffic on a fair and impartial basis," says Keith Hutchison in a survey of post-war aviation problems just published by the Public Affairs Committee, an educational group with headquarters at 30 Rockefeller Plaza, New York City.

"To prevent a public subsidized scramble for air traffic we must build in the spirit of the Atlantic Charter, which means on a basis of equal opportunity for all. Planning must be international. It cannot be carried on by each nation individually and then coordinated through diplomatic channels."

Gains in 1943 Reported by Pan Am

The Pan American Airways System last year transported the largest number of passengers in its history and hauled a record volume of freight, according to the corporation's sixteenth annual report which has just been made public by Juan T. Trippe, president. Total passengers carried during 1943 was 643,936, and an aggregate of 84,545,010 pounds of freight was carried last year. Gross business, covering the world-wide operations of the company in 1943 amounted to $126,000,000.

In addition to telling the story of accomplishments and services in the war effort, the report also looks into the post-war future. "New clippers," says Mr. Trippe, "will be twice as big as your system's present clippers (42-ton Boeing flying boats) which are still the largest commercial transports in use anywhere in the world. They will carry more than 100 passengers and provide economical travel over your system's routes to all continents at tariffs within reach of the average man. World travel will no longer be a luxury. Your system's new fleet will make overnight neighbors of the billion people in the countries throughout the world served by your system."

C.&S. Passenger Revenue Up 11.6% First Five Months

Chicago and Southern Air Lines flew 15,053,554 revenue passenger miles during the first five months of 1944, an increase of 11.6 per cent over the same period in 1943. R. L. Heininger, general traffic manager, has reported. The line flew a total of 3,582,442 revenue passenger miles in May of this year as against 2,904,541 revenue passenger miles in the corresponding month last year.

Sikorsky Predicts Helicopter Will Aid Transportation, Open New Territories

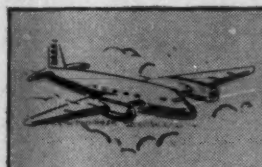
The helicopter will fill a transportation void and make possible broader and more extensive use of territory in this country by opening residences, recreation, prospecting and other developments in areas now idle because of transportation difficulties. This was predicted by Igor Sikorsky, engineering manager of Sikorsky Aircraft, a division of United Aircraft Corporation, Bridgeport, Conn., at the recent semi-annual dinner meeting of the American Society of Mechanical Engineers in Pittsburgh.

"Ultimately the helicopter will become a very popular type of aircraft," Mr. Sikorsky declared, "and perhaps its public acceptance will be developed through its potential commercial uses such as mail delivery, deluxe buses, taxis, emergency air transportation, crop dusting, patrolling and other uses too numerous to mention."

Discussing the role the helicopter will play in filling a transportation void, Mr. Sikorsky said, "Speed in flight will be relatively slow for a long time to come, and will probably not exceed 120-140 miles per hour. Loads also will not be as great as with airplanes, although helicopter buses of 12 to 20 passenger capacity are not beyond reasonable expectation. However, even with such limitations, it is apparent that the inner characteristics of such a craft will qualify it to fill a great void in our present transportation needs.

"The outstanding characteristics of the helicopter have been amply demonstrated in the many experimental flights, cross-country trips and actual missions that were frequently accomplished under difficult and dramatic conditions.

"Among the highlights are the 162 take-offs and landings from aboard a steamship in the open Atlantic, sometime in strong wind with moderate rolling of the ship, the interesting cross-country flight of Colonel H. F. Gregory and passenger from Washington to Dayton, Ohio, covering 387 miles non-stop in less than five hours against head winds from 10 to 30 miles per hour, crossing the Alleghenies with considerable ease. This flight established an unofficial world record for distance and duration."



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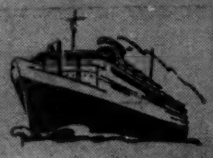

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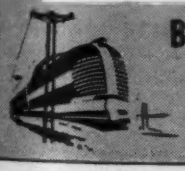

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***IDLEWILD PARLEY**—In earnest conversation over the future of air cargo and the role of the New Idlewild Airport are left to right, Lee Swigart, eastern traffic manager of T.W.A.; John F. Budd, editor and publisher of* AIR TRANSPORTATION *magazine; Edward Baily, president of the Brooklyn Rotary Club and vice president of the Brooklyn Edison Company; and Rodney Gibson, director of the Department of Commerce of the City of New York. Mr. Budd was the principal speaker at a recent meeting of the Brooklyn Rotary celebrating Aviation Day.*

Business Boom in Air Age After War Envisioned by John F. Budd

Insight into the tremendous future of air transportation, as well as the part which the new Idlewild Airport will play in the development of much of the metropolitan area was given recently by John F. Budd, editor and publisher of AIR TRANSPORTATION magazine in an Aviation Day address before members of the Brooklyn Rotary Club.

"To bring the real age of air cargo," Mr. Budd said, "with all of its opportunities for savings in the cost of distribution, for expansion in industry's markets, for more jobs for more people, into existence is going to require a number of things. One of them is a plane that will carry more freight farther and for less cost than any transport plane we've had so far. Of course, the engineers tell us that bombers and transport planes are two different things; that the thousands of bombers we've built for war won't be any better fitted as cargoplanes than a Rolls-Royce would be fit to haul coal; that the real cargoplane of tomorrow hasn't yet been built. Well, maybe they're right, but another fascinating thing amout the B-29 is a report that it proved to be a lot more efficient flying tankcar for hauling gasoline from India to China than any of the actual transport planes the Army Air Forces have in service in Asia. That may some day turn out to be a pretty important discovery.

"Another thing the real air transportation age is going to need is airports. And that's where we can get right down to earth in Brooklyn. Of course, the new Idlewild airport isn't exactly in Brooklyn. But as a lifelong resident of Brooklyn, I think it's close enough to the borough line for all of us to put in a claim for it."

Mr. Budd told his audience that construction of the new Idlewild Airport represented New York City's intention not to be caught napping when air transportation really gets under way after the war.

"It doesn't intend," he continued, "to permit Boston, Baltimore, Philadelphia or any other eastern city to get ahead as the transatlantic air terminal of the post-war years. And it knows perfectly well that even if La-Guardia Field is only four years old, it's already far too small to handle even passenger traffic alone, without taking into consideration the volume of freight that will be moving by air after V-Day."

Discussing the cost of cargo by air, Mr. Budd disclosed that the future which cargo by air holds for the borough depends upon cost. The present costs, he said, are staggering in comparison with cost of rail transportation, and added:

"But the cost of shipping by air must and will come down. Many factors will help to bring it down: bigger and more efficient planes; better and cheaper fuels; faster load-

ing and unloading; lighter packaging for products shipped via air will all help in the direction of economy for the shipper."

Mr. Budd urged his audience to support a two-point program if the borough is to realize fully the advantages of the proximity of the new airport. The program follows:

1. "Support the establishment of through highway connections between Brooklyn and Idlewild, suitable for commercial as well as passenger traffic.

2. "Urge rapid transit connections between Brooklyn and Idlewild so as to encourage air passenger traffic and also to make it attractive for employees at the new airport to live in Brooklyn. It has been established that there might be from 20,000 to 30,000 people employed at the Idlewild site when it is completed and these people might well live in Brooklyn if adequate transportation facilities be available."

"Let us all," he concluded, "join together to make the most of the coming air age."

U. S. Civil Air Group in Spain

A United States civil aviation commission, whose members include Charles Stanton, Fred Novinger and Oswald Ryan, has arrived in Madrid to open negotiations for establishment of a commercial air service between Spain and the United States.

British Railways Plan Post-War Air Travel In Continental Europe

Post-war plans of British Railways Air Services to operate without subsidy or preferential treatment for any one group are now being formulated, according to T. D. Slattery, general traffic manager of the organization in New York. In 1939, approximately 80 per cent of the total route mileage licensed for air transport was operated by the Railway Companies through sixteen air transport companies, but only five have been operated under war conditions. Since 1940, these have topped the 6,000,000 air miles mark with a 95 per cent standard of regularity.

The railways, Mr. Slattery pointed out, together with shipping interests, are now preparing post-war proposals for consideration by Parliament. In the representations made by the railways, it is pointed out that their main concern is internal routes in Great Britain, to Ireland, the Isle of Man, the Channel Isles, and to certain places within the continent and islands of Europe extending to a line drawn through Stockholm and Budapest, which Parliament in 1939 authorized them to fly.

Prior to the war, the railways had invested $2,500,000 in air companies and spent $1,500,000 on development.

LEND-LEASE—Members of the Russian air mission during a recent inspection tour of Pan American Airways' Atlantic Division base at LaGuardia Field, take time out to watch Ruth Gray direct the flight of a PAA captain in a link trainer. The five-man mission is in this country to hold exploratory talks with government officials on international air transportation. Left to right: Major Gen. N. I. Petrov, Major Gen. P. F. Berezin, Division Manager John Leslie, Major Gen. A. A. Aseevich and Major Paul Asseev, assistant military attache for air at the Russian Embassy in Washington, who accompanied the group as interpreter.

TO William A. Straith upon his appointment as president and general manager of Taca Airways Agency, Inc. to fill the vacancy created by the resignation of Robert L. Reed. Mr. Reed continues as vice president and general counsel.

William A. Straith

Prior to his promotion Mr. Straith acted as general operations adviser and chief engineer for the Taca system. In his new post he will supervise activities of the Agency, representing in the United States the Taca companies headed by Lowell Yerex.

Prior to joining the Taca Agency in 1943 he held many executive positions in Canadian and American Aviation circles. He was assistant director of training of the Airlines War Training Institute in New York City; superintendent of pilot training and dispatch for Canadian Pacific Air Lines operating between Edmonton and Alaska and earlier western divisional superintendent of Trans-Canada Airlines and also superintendent of pilot training. He was one of the first pilots assigned by Northwest Airlines to their Seattle Division.

TO Steadham (Steady) Acker who has been appointed Aviation Consultant for Oklahoma City to direct the city's huge flying program including its projected $25,000,000 Mid-Continent Air Terminal. Acker entered aviation as a boy of 18 when he went aloft in a balloon over Birmingham, Ala. and parachuted out. In the first World War he went into Naval aviation, organizing and commanding the Navy's first night flying division with headquarters at Pensacola, Fla.

For ten years he served as chief judge of the Miami All-American Air Manoeuvres and for three years as national airport chairman for the old Aeronautical Chamber of Commerce. Last year he co-operated in the organization of the program for the First National Clinic of Domestic Aviation Planning in Oklahoma City, continuing in aviation circles there until named to his new post.

TO J. C. Brawner, formerly chief of the Rates Section of the Rates and Audits Division of the Economic Bureau of the Civil Aeronautics Board, who has been appointed assistant to the president of National Airlines in charge of matters relating to finance and development.

J. C. Brawner

A graduate of the School of Business Administration of Johns Hopkins University in 1928, Mr. Brawner received an M.A. degree in 1933 from George Washington University, and his Certified Public Accountant's certificate from the District of Columbia in December, 1938.

As chief of the Rates Section of the Rates and Audits Division of the Economic Bureau, Mr. Brawner was responsible for the preparation of financial and operating data for inclusion in the Board's statements of Tentative Findings and Conclusions, for use in exhibits in rate hearings, and for inclusion in final opinions in rate cases. Prior to that position, he was head analyst in the Analysis and Research Section of the Analyses Division of the CAB. He served also as a Post Office Inspector.

TO Gilbert K. Brower, chief materials engineer for American Airlines, who has been appointed vice chairman of the Coordinating Lubricants Research Committee, a general division of the Coordinating Research Council, sponsored by the American Petroleum Institute and the Society of Automotive Engineers.

Gilbert K. Brower

A native of Brooklyn, Mr. Brower studied at Antioch College, Yellow Springs, O., and received his master's degree from the University of Pittsburgh in 1930. He spent the next year at sea, and then joined American through a predecessor company, the American Airplane and Engine Corporation. Mr. Brower is also chairman of the Air Transport Fuels and Lubricants Committee, and holds membership on other committees in the Society for Automotive Engineers, the Coordinating Research Council and the American Society for Testing Materials.

Eugene R. Scroggie

TO Eugene R. Scroggie, nationally-known feeder airline expert and former Civil Aeronautics Authority official, who has just been selected to direct the operations of the projected Ryan airlines. The Ryan School of Aeronautics, San Diego, Calif., has applied to the CAB for authority to operate six airline routes in California.

A former operations manager of All-American Aviation, Mr. Scroggie in 1931 joined the CAA and rose through the ranks to become Chief of the General Inspection Branch, 6th District with headquarters at Santa Monica, Calif. Later he was made Chief of the General Inspection Division for the entire country.

In the last war Mr. Scroggie was a combat pilot with Captain Eddie Rickenbacker's 94th Squadron. He was wounded two months before the Armistice and was interned as a prisoner in a German hospital until the war's end. He is a member of the Aviation Post of the American Legion in Los Angeles, and the Legion's State Aviation Committee.

TO Nelson Metcalf who has been appointed chief industrial engineer of the Allentown Division of Consolidated Vultee Aircraft Corporation. Mr. Metcalf has been with the corporation since March, 1941, and came to Allentown from the Vultee Field Division of the Corporation at Downey, California, where he occupied a similar position.

A native of New York State he became in 1930 methods engineer with Western Electric in Kearney, N. J. Later he held industrial engineering positions with the New York office of Swift and Company; Spool Cotton Company of New York; and Lockheed Aircraft in Burbank, Calif.

TO C. L. Terrill, vice president of the Fairchild Camera & Instrument Corporation who has been given the additional duties of secretary of the company by the members of its board of directors. The former secretary, James S. Ogsbury, Jr., is now serving with the armed forces.

Mr. Terrill joined the Fairchild company in 1934 to organize and direct the patent department. Before that he had been engaged in patent research, had been a United States Army Air Corps officer, and flying instructor to the Canton government of China.

TO A. C. Michaels, who has been appointed plant manager at Goodyear Aircraft, Litchfield Park, Arizona, which has been producing parts for Consolidated B-24 bombers and Venturas. Mr. Michaels was formerly superintendent of the Goodyear Aircraft Corporation's Plant D at Akron, O., where complete units of Navy Corsair fighters are turned out. V. L. Follo, assistant superintendent at Plant D, succeeds Mr. Michaels at Akron.

A. C. Michaels

A native of Tiffin, O., Mr. Michaels joined Goodyear in 1923. He was made general superintendent of the Goodyear plant in Gadsden, Ala., in 1935. He returned to Akron in 1942 to start production on the Navy planes.

TO John P. Loughnane, who has joined the traffic organization of Pennsylvania-Central Airlines and has been assigned to Milwaukee as assistant city traffic manager. He succeeds Ellis Saxton who resigned recently to become promotion manager of Station WISN in Milwaukee.

J. P. Loughnane

Prior to joining PCA, Mr. Loughnane was a member of the Chicago sales staff of United Air Lines. He is a native of Decatur, Ill., attended Loyola University and the Freight Traffic Institute. He has flown more than 50,000 miles and has traveled extensively in this country, Alaska and the orient.

(*Trade Mark*)

International Express and Mail Tables

Express rates quoted are from U. S. international airport of departure and are based on the latest prevailing tariffs. Shippers are warned, however, that they are subject to change.

Bb—Bangor, Me.
Bro—Brownsville, Tex.
Bw—Boston, Mass.
Cg—Chicago
Cub—Cut Bank, Mont.
Eo—El Paso
Fv—Fort Worth
Gf—Grand Forks, N. D.
Lgs—Los Angeles
Mia—Miami
No—New Orleans
Nyk—New York
Sq—San Diego
Ste—Seattle

International Air Express is subject to two charges: one a charge per pound weight or measurements at carrier's option (200 cu. in. to the pound of weight), the other a charge per $100 of valuation. The two must be added on any shipment to determine the cost. Neither includes insurance, which may be purchased by the shipper from the carrier or otherwise.

Priorities: The air carriers warn all shippers that express traffic, both U. S. Government and commercial, is so heavy that no guarantee can be given that any shipment will depart on any particular plane unless it enjoys U. S. priority. Otherwise it will depart, in relation to other shipments, in the order received at the international airport used, subject to wartime limitations. Pick-up service without extra charge now is available for all international air express. For shipments forwarded via Pan American Airways, a "Shipper's Letter of Instructions" is prepared and accompanies shipment to local R.E.A. office, where the PAA Airwaybill is prepared. (On cargoes to be shipped via American Export Airlines, Inc., shippers should contact "Shipper's Service," Room 920, 25 Broadway, New York. HAnover 2-9144.)

International air carriers whose schedules and rates are included here are indicated by the letter following the symbol for the airport:

A—American Airlines.
C—Colonial Air Lines.
E—American Export Airlines.
EA—Express Aero Inter-Americano, S. A.
K—KLM-Royal Dutch Air Lines.
NE—Northeast Airlines.
NW—Northwest Airlines, Inc.
P—Pan American Airways System and affiliates.
T—Trans-Canada Air Lines.
U—United Air Lines.
W—Western Air Lines.

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
LATIN-AMERICA LINES					
Antilla, Cuba	Mia P	.24	.17	Dly	.10
Antofagasta, Chile	Mia P	1.26	.45	M,W,F,Sa	.40
"	No P	1.34	.45	M,T,F,Sa	.40
"	Bro P	1.34	.45	T,Th,Sa	.40
"	Lgs P	1.95	.45	M,W,F	.40
Aracaju, Brazil	Mia P	1.26	.45	M	.40
"	No P	1.71	.45	Sa	.40
"	Bro P	1.71	.45	Sa	.40
"	Lgs P	2.28	.60	F	.40
Areia Branca, Brazil	Mia P	1.24	.45	T,W,Sa	.40
"	No P	1.56	.45	M,T,F	.40
"	Bro P	1.56	.45	Su,M,Th	.40
"	Lgs P	2.13	.45	Su,W,Sa	.40
Arequipa, Peru	Mia P	1.23	.45	Dly	.30
"	No P	1.26	.45	M,T,Th,F,Sa	.30
"	Bro P	1.26	.45	Dly	.30
"	Lgs P	1.93	.45	Dly	.30
Arica, Chile	Mia P	1.25	.45	Su,M,W,F,Sa	.40
"	No P	1.26	.45	M,T,F,Sa	.40
"	Bro P	1.26	.45	Su,T,Th,F,Sa	.40
"	Lgs P	1.94	.45	M,W,F,Su	.40
Aruba, N. W. I.	— P	via Curacao, N. W. I.			
"	Mia K	.71	.45*	W,Sa	.25
Asuncion, Para	Mia P	1.73	.45	Su,Th	.40
"	No P	1.86	.45	T,S	.40
"	Bro P	1.86	.45	T,F	.40
"	Lgs P	2.43	.60	M,Th	.40
Bahia, Brazil (*See Sao Salvador*)					
Balboa, Canal Zone	Mia P	.76	.35	Dly	.15
"	No P	.90	.35	M,T,Th,F,Sa	.15
"	Bro P	.90	.35	Twice Dly	.15
"	Lgs P	1.45	.45	Dly	.15
Baracoa, Cuba	Mia P	.28	.20	Dly	.10
Barcelona, Venezuela	Mia P	.85	.35	Dly	.25
"	No P	1.17	.45	M,T,Th,F,Sa	.25
"	Bro P	1.17	.45	Dly	.25
"	Lgs P	1.78	.45	Dly	.25
Barranquilla, Colombia	Mia K	.85	.50*	Sa	.25
via Kingston	Mia P	.61	.35	Su,T,W,F	.25
via Balboa	Bro P	1.03	.35	Dly	.25
"	No P	1.03	.35	M,T,Th,F,Sa	.25
"	Lgs P	1.59	.45	Dly	.25
Bauru, Brazil	Mia P	1.58	.45	T,Sa	.40
"	No P	1.71	.45	M,F	.40
"	Bro P	1.71	.45	Su,Th	.40
"	Lgs P	2.28	.65	Sa,W	.40
Belem, Brazil	Mia P	1.13	.45	Dly	.40
"	No P	1.34	.45	M,T,Th,F,Sa	.40
"	Bro P	1.34	.45	Dly	.40
"	Lgs P	1.95	.45	Dly	.40
Bello-Horizonte, Brazil	Mia P	1.65	.45	M,T,W,Th, F,Sa,Su	.40

Destination	U.S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Bello-Horisonte, Brazil	Mia P	1.65	.45	Dly	.40
"	No P	2.13	.45	M,T,Th,F,Sa	.35
"	Bro P	2.13	.45	Dly	.40
"	Lgs P	2.69	.60	Dly	.40
Bonaire, N.W.I.	— P	via Curacao, N. W. I.			
"	Mia K	.75	.45*	W,Sa	.25
Buenos Aires, Argentina	Mia P	1.56	.45	Dly	.40
"	No P	1.70	.45	M,T,Th,F,Sa	.40
"	Bro P	1.70	.45	Dly	.40
"	Lgs P	2.26	.60	Dly	.40
Cali, Col. via Balboa	Mia P	.89	.35	Dly	.35
"	No P	1.03	.35	M,T,Th,F,Sa	.40
"	Bro P	1.03	.35	Dly	.35
"	Lgs P	1.59	.45	Dly	.35
Camaguey, Cuba	Mia P	.26	.20	Thrice Dly	.10
"	Mia K	.20	.25*	W,Sa	.10
Campeche, Mexico	Mia P	.41	.20	Dly	.10
"	No P	.41	.20	M,T,Th,F,Sa	.10
"	Bro P	.51	.35	Dly	.10
"	Lgs P	1.00	.35	Dly	.10
Campo Grande, Brazil	Mia P	1.48	.45	T,Sa	.40
"	No P	1.61	.45	M,F	.40
"	Bro P	1.61	.45	Su,Th	.40
"	Lgs P	2.18	.45	Sa,W	.40
Canavieiras, Brazil	Mia P	1.33	.45	M,T	.40
"	No P	1.81	.45	M,Sa	.40
"	Bro P	1.81	.45	Su,Sa	.40
"	Lgs P	2.38	.60	Fr,Sa	.40
Caracas, Venezuela (See *La Guaira*)					
Caravellas, Brazil	Mia P	1.36	.45		.40
"	No P	1.85	.45		.40
"	Bro P	1.85	.45		.40
"	Lgs P	2.41	.60		.40
Cayenne, Fr. Guiana	Mia P	1.02	.35	Dly	.30
"	No P	1.26	.45	M,T,Th,F,Sa	.30
"	Bro P	1.26	.45	Dly	.30
"	Lgs P	1.91	.45	Dly	.30
Cayo Mambi, Cuba	Mia P	.26	.20	Dly	.10
Chetumal, Mexico	Mia P	.55	.35	W,Sa	.10
"	No P	.55	.35	Th,Sa	.10
"	Bro P	.55	.35	Su,Th	.10
"	Lgs P	1.04	.35	W,Sa	.10
Chiclayo, Peru	Mia P	1.11	.45	Dly	.30
"	No P	1.19	.45	M,T,Th,F,Sa	.30
"	Bro P	1.19	.45	Dly	.30
"	Lgs P	1.81	.45	Dly	.30
Cienfuegos, Cuba	Mia P	.20	.17	M,T,W,F	.10
C. del Carmen, Mexico	Mia P	.45	.20	Dly	.10
"	No P	.45	.20	M,T,Th,F,Sa	.10
"	Bro P	.47	.35	Dly	.10
"	Lgs P	.94	.35	Dly	.10
Ciudad Trujillo, D. R.	Mia P	.45	.20	Thrice Dly	.10
"	Mia K	1.12	.50*	Sa	.10
Cochabamba, Bolivia	Mia P	1.26	.45	M,W,Sa	.35
"	No P	1.35	.45	M,T,F,Sa	.35
"	Bro P	1.35	.45	Su,T,F	.35
"	Lgs P	1.95	.45	M,Th,Sa	.35
Concepcion, Bolivia	Mia P	1.31	.45	Sa	.35
"	No P	1.45	.45	Sa	.35
"	Bro P	1.45	.45	F	.35
"	Lgs P	2.03	.45	Th	.35
Cordoba, Argentina	Mia P	1.49	.45	Dly	.40
"	No P	1.63	.45	M,T,Th,F,Sa	.40
"	Bro P	1.63	.45	Dly	.40
"	Lgs P	2.19	.45	Dly	.40
Coro, Venezuela	Mia P	.74	.35	Dly	.25
"	No P	1.11	.45	M,T,Th,F,Sa	.25
"	Bro P	1.11	.45	Dly	.25
"	Lgs P	1.69	.45	Dly	.25
Corumba, Brazil	Mia P	1.41	.45	T,Sa	.40
"	No P	1.56	.45	M,F	.40
"	Bro P	1.56	.45	Su,Th	.40
"	Lgs P	2.13	.45	Sa,W	.40
Cristobal, Canal Zone	Mia P	.76	.35	Dly	.15
"	No P	.92	.35	M,T,Th,F,Sa	.15
"	Bro P	.92	.35	Twice Dly	.15
"	Lgs P	1.46	.45	Dly	.15

Destination	U.S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Cuenca, Ecuador	Mia P	1.06	.35	Su,W,F	.30
"	No P	1.15	.45	T,Th,Sa	.30
"	Bro P	1.15	.45	T,Th,Sa	.30
"	Lgs P	1.76	.45	M,W,F	.30
Curacao, N. W. I.	Mia P	.75	.35	Dly	.25
"	No P	.93	.35	M,T,Th,F,Sa	.25
"	Bro P	1.11	.45	Dly	.25
"	Lgs P	1.73	.45	Dly	.25
"	Mia K	0.73	.45*	W,Sa	.25
Curityba, Brazil	Mia P	1.60	.45	Su,M,W,Th,F	.40
"	No P	2.00	.45	T,Th,Sa	.40
"	Bro P	2.00	.45	M,T,W,F,Sa	.40
"	Lgs P	2.58	.60	Su,M,T,Th,Sa	.40
David, Panama	Mia P	.82	.35	Dly	.15
"	No P	.85	.35	M,T,Th,F,Sa	.15
"	Bro P	.85	.35	Dly	.15
"	Lgs P	1.38	.45	Dly	.15
Esmeraldas, Ecuador	Mia P	.99	.35	T	.30
"	No P	1.11	.45	T	.30
"	Bro P	1.11	.45	M	.30
"	Lgs P	1.71	.45	Su	.30
Florianopolis, Brazil	Mia P	1.63	.45	M,W,F	.40
"	No P	2.11	.45	T,Th,Sa	.40
"	Bro P	2.11	.45	M,W,Sa	.40
"	Lgs P	2.68	.60	Su,T,F	.40
Fort de France, Martinique	Mia P	.71	.35	Su,W	.15
"	No P	1.00	.35	T,Sa	.15
"	Bro P	1.16	.45	M,Sa	.15
"	Lgs P	1.78	.45	Su,F	.15
Fortaleza, Brazil (Ceara)	Mia P	1.23	.45	M,T,W,Sa	.40
"	No P	1.54	.45	M,T,Th,F,Sa	.40
"	Bro P	1.54	.45	Su,M,W,Th, Sa	.40
"	Lgs P	2.10	.45	T,W,F,Sa,Su	.40
Georgetown, British Guiana	Mia P	.90	.45	Su,F	.30
"	No P	1.24	.45	Th,Sa	.30
"	Bro P	1.24	.45	W,F	.30
"	Lgs P	1.88	.45	T,Th	.30
Guadalajara, Mexico	Bro P	.43	.20	Dly	.10
"	Lgs P	.59	.35	Dly	.10
Guantanamo, Cuba	Mia P	.28	.20	Dly	.10
Guatemala City, Gua	No P	.53	.35	M,T,Th,F,Sa	.12
"	Bro P	.53	.35	Twice Dly	.12
"	Lgs P	1.08	.45	Dly	.12
Guayaquil, Ecuador	Mia P	1.04	.35	Dly	.12
"	No P	1.15	.45	M,T,Th,F,Sa	.30
"	Bro P	1.15	.45	Dly	.30
"	Lgs P	1.75	.45	Dly	.30
Havana, Cuba	Mia P	.20	.17	Thrice Dly	.30
"	MiaEA	.20	.18	Twice Dly	.10
Hermosillo, Mexico	Lgs P	.24	.17	Dly	.10
Iguassu Falls, Brazil	Mia P	1.69	.45	Su,Th	.10
"	No P	1.91	.45	T,Sa	.40
"	Bro P	1.91	.45	T,F	.40
"	Lgs P	2.48	.60	M,Th	.40
Ixtepec, Mexico	Mia P	.76	.35	M,T,W,Th, F,Sa	.40
"	No P	.76	.35	M,T,Th,F,Sa	.10
"	Bro P	.41	.20	Su,M,T,W, Th,F	.10
"	Lgs P	.89	.35	Su,M,T,W, Th,Sa	.10
Joao Pessoa, Brazil (Cabedello)	Mia P	1.25	.45		.40
"	No P	1.64	.45		.40
"	Bro P	1.64	.45		.40
"	Lgs P	2.20	.45		.40
Kingston, Jamaica	Mia P	.39	.20	M,T,W,F	.10
"	Mia K	.35	.35*	W	.10
La Guaira, Venezuela	Mia P	.81	.35	Dly	.25
"	Mia K	.75	.45*	W,Sa	.25
"	No P	1.15	.45	M,T,Th,F,Sa	.25
"	Bro P	1.15	.45	Dly	.25
"	Lgs P	1.75	.45	Dly	.25
La Paz, Bolivia	Mia P	1.25	.45	M,T,W,Th, F,Sa	.35
"	No P	1.30	.45	Su,M,Th,Sa	.35
"	Bro P	1.30	.45	Su,M,T,W,F	.35
"	Lgs P	1.95	.45	Su,M,T,W,F	.35

Destination	U.S. Gateway & Airline	RATES		Depart	Mail per ½ Oz.
		Per Lb.	Per $100 Value		
Lima, Peru	Mia P	1.18	45	Dly	30
"	No P	1.24	45	M,T,Th,F,Sa	30
"	Bro P	1.24	45	Dly	30
"	Lgs P	1.88	45	Dly	30
Loja, Ecuador	Mia P	1.08	45	Su,W,F	30
"	No P	1.17	45	T,F,Sa	30
"	Bro P	1.17	45	T,Th,Sa	30
"	Lgs P	1.78	45	M,W,F	30
Maceio, Brazil	Mia P	1.26	45	M,T,F,Sa	40
"	No P	1.68	45	M,Th,F,Sa	40
"	Bro P	1.68	45	Su,W,Th,Sa	40
"	Lgs P	2.24	45	T,W,F,Sa	40
Managua, Nicaragua	Mia P	.86	35	Dly	12
"	No P	.71	35	M,T,Th,F,Sa	12
"	Bro P	.71	35	Dly	12
"	Lgs P	1.22	45	Dly	12
Manaos, Brazil	Mia P	1.24	45	T,Sa	40
"	No P	1.56	45	M,F	40
"	Bro P	1.56	45	Su,Th	40
"	Lgs P	2.13	45	W,Sa	40
Manta, Ecuador	Mia P	1.03	35	Th,Sa	30
"	No P	1.14	45	Th,Sa	30
"	Bro P	1.14	45	W,F	30
"	Lgs P	1.74	45	T,Th	30
Manzanillo, Cuba	Mia P	.26	20	Dly	10
Maracaibo, Venezuela	Mia P	.69	35	Dly	25
"	Mia K	.75	45	W,Sa	25
"	No P	1.08	45	M,T,Th,F,Sa	25
"	Bro P	1.08	45	Dly	25
"	Lgs P	1.66	45	Dly	25
Maturin, Venezuela	Mia P	.89	35	Dly	25
"	No P	1.19	45	M,T,Th,F,Sa	25
"	Bro P	1.19	45	Dly	25
"	Lgs P	1.80	45	Dly	25
Mazatlan, Mexico	Bro P	.57	35	Dly	10
"	Lgs P	.45	20	Dly	10
Medellin, Colombia (via Barranquilla)	Mia P	1.06	35	Su,T,W,F	35
Medellin, Colombia (via Balboa)	Mia P	1.06	35	Sa	35
"	No P	1.10	45	T,F,Sa	35
"	Bro P	1.10	45	M,Th,F	35
"	Lgs P	1.65	45	Su,W,Th	35
Mendoza, Argentina	Mia P	1.41	45	Su,M,W,F,Sa	40
"	No P	1.55	45	M,T,F,Sa	40
"	Bro P	1.55	45	Su,T,Th,F,Sa	40
"	Lgs P	2.11	45	M,W,F,Su	40
Merida, Mexico	Mia P	.37	20	Dly	10
"	No P	.37	20	M,T,Th,F,Sa	10
"	Bro P	.55	35	Dly	10
"	Lgs P	1.04	35	Dly	10
Mexicali, Mexico	Lgs P	.20	17	Dly	10
Mexico City, Mexico	Mia P	.64	35	Dly	10
"	No P	.64	35	M,T,Th,F,Sa	10
"	Bro P	.26	20	Dly	10
"	Lgs A	.67	35	Dly	10
"	Lgs P	.70	20	Dly	10
Mexico City, Mexico	Fv A	.40	20	Dly	10
"	Eo A	.42	20	Dly	10
"	Sq A	.74	20	Dly	10
Minatitlan, Mexico	Mia P	.53	35	Dly	10
"	No P	.53	35	M,T,Th,F,Sa	10
"	Bro P	.39	20	Dly	10
"	Lgs P	.86	35	Dly	10
Monterrey, Mexico	Fv A	.33	20	Dly	10
"	Eo A	.34	20	Dly	10
"	Lgs A	.62	20	Dly	10
"	Sq A	.74	20	Dly	10
Montevideo, Uruguay	Mia P	1.60	45	Su,T,W,F	40
"	No P	1.74	45	M,T,Th,Sa	40
"	Bro P	1.74	45	Su,M,W,F	40
"	Lgs P	2.30	60	Su,T,Th,Sa	40
Nassau, Bahamas	Mia P	.20	17	Dly ex Su	10
Natal, Brazil	Mia P	1.25	45	M,T,W,Th,Sa	40
"	No P	1.61	45	M,T,F,Sa	40
"	Bro P	1.61	45	Su,M,T,Th,Sa	40
"	Lgs P	2.18	45	Su,M,W,F,Sa	40
Oaxaca, Mexico	Mia P	.73	35	Su,T,Th	10
"	No P	.73	35	T,Th,Sa	40
"	Bro P	.35	20	Su,T,Th	10
"	Lgs P	.81	35	M,W,Sa	10

Destination	U.S. Gateway & Airline	RATES		Depart	Mail per ½ Oz.
		Per Lb.	Per $100 Value		
Oruro, Bolivia	Mia P	1.26	45	M,T,W,Th,Sa	35
"	No P	1.33	45	M,T,Th,Sa	35
"	Bro P	1.33	45	Su,M,T,W,F	35
"	Lgs P	1.95	45	Su,M,T,Th,Sa	35
Panama City, Panama	(*See Balboa, C.Z.*)				
Para, Brazil (*See Belem*)					
Paramaribo, Sur.	Mia P	.97	.35	Dly	30
"	Mia K	1.14	.60*	Sa	30
"	No P	1.25	45	M,T,Th,F,Sa	30
"	Bro P	1.25	40	Dly	30
"	Lgs P	1.90	45	Dly	30
Parnahyba, Brazil	Mia P	1.21	45		40
"	No P	1.48	45		40
"	Bro P	1.48	45		40
"	Lgs P	2.04	45		40
Point a Pitre, Guadeloupe	Mia P	.66	35	Su,W	15
"	No P	.98	35	T,Sa	15
"	Bro P	1.14	45	M,Sa	15
"	Lgs P	1.74	45	Su,F	15
Port au Prince, Haiti	Mia P	.37	.20	Thrice Dly	10
"	Mia K	.39	.35*	Sa	10
Port of Spain, Trinidad	Mia P	.70	35	Dly	15
"	Mia K	.91	.55*	W,Sa	15
"	No P	1.20	45	M,T,Th,F,Sa	15
"	Bro P	1.20	45	Dly	15
"	Lgs P	1.81	45	Dly	15
Porto Alegre, Brazil	Mia P	1.70	45	M,T,W,F Sa,Su	40
"	No P	2.19	45	M,T,Th,F,Sa	40
"	Bro P	2.19	45	M,W,Th,F, Sa,Su	40
"	Lgs P	2.75	60	T,W,Th,F, Sa,Su	40
Preston, Cuba	Mia P	.24	.17	Dly	10
Puerto Suarez, Bolivia	Mia P	1.41	45	Sa	35
"	No P	1.56	45	Sa	35
"	Bro P	1.56	45	F	35
"	Lgs P	2.13	45	Th	35
Quito, Ecuador	Mia P	.97	.35	Dly	30
"	No P	1.09	45	M,T,Th,F,Sa	30
"	Bro P	1.09	45	Dly	40
"	Lgs P	1.68	45	Dly	30
Recife (Pernambuco), Brazil	Mia P	1.26	45	M,T,W,Th, F,Sa	40
"	No P	1.65	45	M,T,Th,F,Sa	40
"	Bro P	1.65	45	Su,M,T,W, Th,Sa	40
"	Lgs P	2.21	45	Su,M,T,W, F,Sa	40
Rio de Janeiro	Mia P	1.50	45	Su,M,T,W, F,Sa	40
"	No P	1.98	45	M,T,Th,F,Sa	40
"	Bro P	1.98	45	M,W,Th,F, Sa,Su	40
"	Lgs P	2.54	60	Su,T,W,Th, F,Sa	40
Robore, Bolivia	Mia P	1.38	45	Sa	35
"	No P	1.51	45	Sa	35
"	Bro P	1.51	45	F	35
"	Lgs P	2.08	45	Th	35
Salinas, Ecuador	Mia P	1.03	35	Th,Sa	30
"	No P	1.15	45	Th,Sa	30
"	Bro P	1.15	45	W,F	30
"	Lgs P	1.75	45	Tu,Th	30
Salta, Argentina	Mia P	1.30	45	T,Th,Sa	40
"	No P	1.45	45	T,Th,Sa	40
"	Bro P	1.45	45	M,W,F	40
"	Lgs P	2.03	45	Su,T,Th	40
San Ignacio, Bolivia	Mia P	1.33	45	Sa	35
"	No P	1.48	45	Sa	35
"	Bro P	1.48	45	Fr	35
"	Lgs P	2.04	45	Th	35
San Jose, Bolivia	Mia P	1.35	45	Sa	35
"	No P	1.50	45	Sa	35
"	Bro P	1.50	45	Fr	35
"	Lgs P	2.08	45	Th	35

* These rates are only due if consignments are shipped with declared value.

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per ½ Oz.
		Per Lb.	Per $100 Value		
San Jose, Costa Rica	Mia P	.89	.35	Dly	.15
"	No P	.76	.35	M,T,Th,F,Sa	.15
"	Bro P	.76	.35	Twice Dly	.15
"	Lgs P	1.31	.45	Dly	.15
San Juan, Puerto Rico	Mia P	.53	.35	Thrice Dly	.10
San Salvador, El Salvador	Mia P	.79	.35	Dly	.12
"	No P	.61	.35	M,T,Th,F,Sa	.12
"	Bro P	.61	.35	Dly	.12
"	Lgs P	1.14	.45	Dly	.12
Santa Cruz, Bolivia	Mia P	1.28	.45	M,W,Sa	.35
"	No P	1.43	.45	M,T,Sa	.35
"	Bro P	1.43	.45	Su,T,F	.35
"	Lgs P	1.99	.45	M,Th,Sa	.35
Santiago, Chile	Mia P	1.38	.45	Su,M,W,F,Sa	.40
"	No P	1.51	.45	M,T,F,Sa	.40
"	Bro P	1.51	.45	Su,T,Th,F,Sa	.40
"	Lgs P	2.08	.45	Su,M,W,Th, F,Sa	.40
Santiago, Cuba	Mia P	.26	.20	Dly	.10
Sao Luiz, Brazil	Mia P	1.19	.45	M,T,W,F,Sa	.40
"	No P	1.43	.45	M,T,Th,F,Sa	.40
"	Bro P	1.43	.45	Su,M,W,Th, Sa	.40
"	Lgs P	1.99	.45	Su,T,W,F,Sa	.40
Sao Paulo, Brazil	Mia P	1.55	.45	Dly	.40
"	No P	2.04	.45	M,T,Th,F,Sa	.40
"	Bro P	2.04	.45	Dly	.40
"	Lgs P	2.60	.60	Dly	.40
Sao Salvador, Brazil (Bahia)	Mia P	1.28	.45	M,T,W,F,Sa	.40
"	No P	1.76	.45	M,T,Th,F,Sa	.40
"	Bro P	1.76	.45	Su,M,W,Th, Sa	.40
"	Lgs P	2.33	.60	Su,T,W,F,Sa	.40
St. Johns, Antigua, British West Indies	Mia P	.64	.35	Su,W	.15
"	No P	.96	.35	T,Sa	.15
"	Bro P	1.13	.45	M,Sa	.15
"	Lgs P	1.73	.45	Su,F	.15
St. Thomas, V. I.	Mia P	.57	.35	Su,W	.10
"	No P	.90	.35	T,Sa	.10
"	Bro P	1.10	.45	M,Sa	.10
"	Lgs P	1.68	.45	Su,F	.10
Talara, Peru	Mia P	1.08	.45	Dly	.30
"	No P	1.17	.45	M,T,Th,F,Sa	.30
"	Bro P	1.17	.45	Dly	.30
"	Lgs P	1.79	.45	Dly	.30
Tampico, Mexico	Bro P	.20	.17	Dly	.10
"	Lgs P	.81	.35	Dly	.10
Tapachula, Mexico	Mia P	.74	.35	Dly	.10
"	No P	.74	.35	M,T,Th,F,Sa	.10
"	Bro P	.53	.35	Dly	.10
"	Lgs P	1.02	.35	Dly	.10
Tegucigalpa, Honduras	Mia P	.82	.35	Dly	.12
"	No P	.68	.35	M,T,Th,F,Sa	.12
"	Bro P	.68	.35	Dly	.12
"	Lgs P	1.18	.45	Dly	.12
Tres Lagoas, Brazil	Mia P	1.53	.45	T,Sa	.40
"	No P	1.66	.45	M,F	.40
"	Bro P	1.66	.45	Su,Th	.40
"	Lgs P	2.23	.45	Sa,W	.40
Tucuman, Argentina	Mia P	1.34	.45	T,Th,Sa	.40
"	No P	1.49	.45	T,Th,Sa	.40
"	Bro P	1.49	.45	M,W,F	.40
"	Lgs P	2.05	.45	T,Th,Sa	.40
Turbo, Colombia (via Barranquilla)	Mia P	1.06	.35	Su,T,W,F	.35
Turbo, Colombia (via Balboa, C. Z.)	Mia P	1.06	.35	Sa	.35
"	No P	1.10	.45	T,F,Sa	.35
"	Bro P	1.10	.45	M,Th,F	.35
"	Lgs P	1.65	.45	Su,W,Th	.35
Tuxpan, Mexico	Bro P	.20	.17	Dly	.10
"	Lgs P	.83	.35	Dly	.10
Tuxtla,Gutierrez,Mexico	Mia P	.81	.35	Su,M,T,W, Th,F	.10
"	No P	.81	.45	T,Th,Sa	.10
"	Bro P	.45	.20	Su,T,Th	.10
"	Lgs P	.93	.35	M,W,Sa	.10

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per ½ Oz.
		Per Lb.	Per $100 Value		
Uyuni, Bolivia	Mia P	1.26	.45	T,Th	.35
"	No P	1.38	.45	T,Th	.35
"	Bro P	1.38	.45	M,W	.35
"	Lgs P	1.95	.45	Su,T	.35
Veracruz, Mexico	Mia P	.57	.35	Dly	.10
"	No P	.57	.35	Su,W	.10
"	Bro P	.33	.20	Dly	.10
"	Lgs P	.79	.35	Dly	.10
Victoria, Brazil	Mia P	1.41	.45	M,T	.40
"	No P	1.90	.45	M,Sa	.40
"	Bro P	1.90	.45	Sa,Su	.40
"	Lgs P	2.46	.60	F,Sa	.40
Villahermosa, Mexico	Mia P	.49	.35	Dly	.10
"	No P	.49	.35	M,T,Th,F,Sa	.10
"	Bro P	.43	.20	Dly	.10
"	Lgs P	.90	.35	Dly	.10

NOTE: Charges Collect and C. O. D. Services have been resumed to Pan American Airways Airports in the following countries: Canal Zone—Costa Rica—Cuba—Dominican Republic—El Salvador—Guatemala—Haiti—Honduras—Panama Republic—Puerto Rico—Surinam—Trinidad—Venezuela—Virgin Islands; also charges collect (no C. O. D.) service to Nicaragua.

ATLANTIC LINES

Bolama, Portuguese Guinea, Africa		2.66	.45	Fortnightly	.60
Botwood, Newfoundland	Nyk P	.81	.35	Thrice wk	.15
Dakar, Senegal, Africa		2.56	.45	Fortnightly	.45
England via Foynes*	Nyk E	(Rates	on	Application)	.30
" " *	Nyk P	(Rates	on	Application)	.30
Foynes, Eire via Botwood	Nyk P	1.78	.45	Thrice wk	.30
" " via Lisbon	Nyk P	2.00	.50	Fortnightly	.30
"	Nyk E	2.00	.50	.....	.30
Hamilton, Bermuda	Nyk P	.55	.20	Thrice fortnightly	.10
Horta, Azores	Nyk P	1.70	.35	Fortnightly	.30
Lisbon, Portugal	Nyk P	2.00	.45	Fortnightly	.30
Monrovia (Fisherman's Lake), Liberia		2.67	.45	Fortnightly	.50
Scotland via Foynes*	Nyk E	(Rates	on	Application)	.30
" " *	Nyk P	(Rates	on	Application)	.30
Shediac, N. B.	Nyk P	.51	.20	Thrice wk	.06
Wales via Foynes*	Nyk E	(Rates	on	Application)	.30
" " *	Nyk P	(Rates	on	Application)	.30

ALASKA LINES

Aniak	Alaska	Ste P	1.08	.35	Schedules not published	.08
Bethel,	"	Ste P	1.11	.35	"	.08
Burwash Landing	"	Ste P	.72	.35	"	.08
Fairbanks	"	Ste P	.90	.35	"	.08
Flat	"	Ste P	1.05	.35	"	.08
Galena	"	Ste P	1.00	.35	"	.08
Juneau	"	Ste P	.56	.35	"	.08
Lake Minchumina	"	Ste P	.95	.35	"	.08
McGrath	"	Ste P	1.00	.35	"	.08
Moses Point	"	Ste P	1.07	.35	"	.08
Nome	"	Ste P	1.11	.35	"	.08
Tanacross	"	Ste P	.81	.35	"	.08
Tanana	"	Ste P	.95	.35	"	.08
Whitehorse, Canada		Ste P	.66	.35	"	.08

CANADIAN LINES

		Note			
Calgary, Alb.	Nyk T	1.02	†	Dly	.08
Edmonton, Alb.	Nyk T	1.06	†	Dly	.08
Halifax, N. S.	Nyk T	.31	†	Dly	.08
Lethbridge, Alb.	Nyk T	.88	†	Dly	.08
"	CubW	.04	†	Dly	.08
London, Ont.	Nyk T	.22	†	Dly	.08
Moncton, N. B.	BbNE	.06	†	Dly	.08
Montreal, Que.	Nyk C	.12	†	Dly	.08
"	Nyk T	.12	†	Dly	.08

Destination	U.S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
North Bay, Ont.	Nyk T	.27	†	Dly	.08
Ottawa, Ont.	Nyk T	.18	†	Dly	.08
Regina, Sask.	Nyk T	.80	†	Dly	.08
St. John, N. B.	Nyk T	.31	†	Dly	.08
St. Johns, N. F.	Nyk T	.58	†	Dly	.08
Sydney, N. S.	Nyk T	.36	†	Dly	.08
Toronto, Ont.	Nyk A	.16	†	Dly	.08
"	Nyk T	.16	†	Dly	.08
Vancouver, B. C.	Ste U	.04	†	Dly	.08
"	Nyk T	.96	†	Dly	.08
Windsor, Ont.	Nyk A	.20	†	Dly	.08
"	Cg A	.12	†	Dly	.08
"	Nyk T	.20	†	Dly	.08
Winnipeg, Man.	GfNW	.04	†	Dly	.08
"	Nyk T	.60	†	Dly	.08

* British Overseas Airways Corp. carries from Foynes, Ireland to destinations in England, Scotland, and Wales.

† Canadian air express is carried on the same basis as air express within the U. S.: $50 declared value free; excess charged at 10 cents per $100 or fraction thereof.

NOTE: Per pound rate shown in this column is based on the average package weighing 25 lbs., i.e.: 1 lb. package from New York to Ontario would cost $1 and 25 lbs. $4. Average cost per lb.; 16¢.

Four Nations Join Forces To Haul Rubber by Air

Four South American republics—Brazil, Bolivia, Peru and Colombia—are working with the U. S. Rubber Development Corp. to extend air transport services for rubber production in the vast Amazon Valley. Additional airports are being built by local governments with assistance from the rubber development agency. New airlines are being established to link remote rubber producing points with seaboard centers and capitals.

Into the Amazon, in connection with rubber development, moves by air transport an increasing volume of supplies, such as food, drugs and miscellaneous equipment. Now under construction is an airport at Iquitos, famous old rubber trading center, 2,000 miles up the Amazon in Peru, now playing a key role in the new rubber program.

Iquitos already is linked by amphibian planes with Brazil's east coast by air and with air lanes to Bolivia and the Pacific Coast.

A celebrated rubber-trading center in Brazil has become headquarters for the Amazon air transport system—Manaos, 1,000 miles up the Amazon. Planes fly regularly from Manaos to the east and west coasts of South America and to hitherto inaccessible jungle towns of Bolivia, Peru, Brazil and Colombia.

Many airfields have been constructed along Amazon frontiers. In Bolivia, for example, the river towns of Riberalta, Guayaramerin, Magdalena and Trinidad have been equipped with airfields. These towns a few years ago were accessible from the Brazilian side only after a trek of hundreds of miles.

The Brazilian towns of Guajara Mirim, Porto Velho and others across the border from the Beni region of Bolivia have become regular ports of call in the Amazon air transport system. Peru has built airports at Tingo Maria, on the eastern slopes of the Andes, and at Pucallpa, terminal of the new Central Highway across the Andes. Both these Peruvian towns have become shipping centers for supplies to the rubber tappers and for rubber en route to west coast ports.

Rubber Development Corp. has two amphibian planes and four flying boats and one land plane based at Manaos. Rubber Development also has two amphibians operated by the Faucett Air Lines of Peru on regular schedules between Amazon points and the Pacific coast.

Two other South American air lines are cooperating in the program. The Brazilian company, Panair do Brazil, under charter, makes regular schedule flights from Belem, gateway of the Amazon, on the eastern coast of Brazil, to Manaos and Iquitos, and from Manaos to Porto Velho and Guajara-Mirim. The Bolivian air line Lloyd Aereo Boliviano ties Bolivian producing regions into the air transport system. Pan American Airways operates planes under contract with Rubber Development Corp. from Miami to Manaos, carrying personnel and supplies for the rubber program.

Seeks Airship Routes

A renewed interest in the use of lighter-than-air craft after the war is seen in the announcement that the Goodyear Aircraft Co. has applied to the CAB for international air transport routes. Previously the United States Airship Company applied for trans-Pacific routes.

UAL's Mail, Freight Increase

During the first five months of 1944, United Air Lines carried almost as much air mail as it did in all of 1942, C. P. Graddick, director of air cargo, has announced. United's 5-month total was 6,508,695 mail ton-miles or 95 per cent of the 6,827,977 mail ton-miles flown in 1942. Express ton-miles in May totaled 321,554 as against 302,222 in the same month last year, reflecting an increase of 6 per cent.

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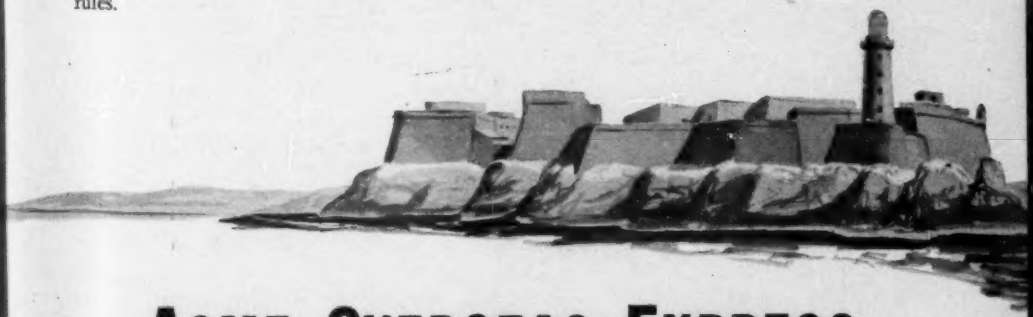

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